APPLICATION FOR FINANCIAL ASSISTANCE
Revised 4/99

IMPORTANT: Please consult the "Instructions for Completing the Project Application" for assistance in completion of this form.

SUBDIVISION: CITY OF CINCINNATI **CODE#** 061-15000

DISTRICT NUMBER: 2 **COUNTY:** Hamilton **DATE** 9 / 08 / 2007

CONTACT: Greg Long **PHONE #** (513) 352-5289
(THE PROJECT CONTACT PERSON SHOULD BE THE INDIVIDUAL WHO WILL BE AVAILABLE ON A DAY-TO-DAY BASISDURING THE APPLICATION REVIEW AND SELECTION PROCESS AND WHO CAN BEST ANSWER OR COORDINATE THE RESPONSE TO QUESTIONS)
FAX (513)352-5336 **E-MAIL:** greg.long@cincinnati-oh.gov

PROJECT NAME: Spring Grove/Clifton Improvements

SUBDIVISION TYPE
(Check Only 1)
__1. County
_X_2. City
__3. Township
__4. Village
__5. Water/Sanitary District
(Section 6119 O.R.C.)

FUNDING TYPE REQUESTED
(Check All Requested & Enter Amount)
_X_1. Grant ~~$2,800,000~~ 1,400,000
__2. Loan $_____
__3. Loan Assistance $_____

PROJECT TYPE
(Check Largest Component)
_X_1. Road
__2. Bridge/Culvert
__3. Water Supply
__4. Wastewater
__5. Solid Waste
__6. Stormwater

TOTAL PROJECT COST: $~~4,000,000~~ 2,000,000

FUNDING REQUESTED: ~~$3,600,000~~ 1,400,000

DISTRICT RECOMMENDATION
To be completed by the District Committee ONLY

GRANT: $1,400,000 **LOAN ASSISTANCE:** $_____
SCIP LOAN: $_____ **RATE:**_____% **TERM:** _____yrs.
RLP LOAN: $_____ **RATE:**_____% **TERM:** _____yrs.

(Check Only 1)
___State Capital Improvement Program
___Small Government Program
X Local Transportation Improvements Program

HAMILTON COUNTY
ENGINEER'S
PERMIT DEPARTME
2007 SEP 21 PM 1:17

FOR OPWC USE ONLY

PROJECT NUMBER: C_____/C_____
Local Participation _____%
OPWC Participation _____%
Project Release Date: ___/___/___
OPWC Approval: _____

APPROVED FUNDING: $_____
Loan Interest Rate: _____%
Loan Term: _____years
Maturity Date: _____
Date Approved: ___/___/___
SCIP Loan _____ **RLP Loan**

1.0 PROJECT FINANCIAL INFORMATION

1.1 PROJECT ESTIMATED COSTS: (Round to Nearest Dollar)		TOTAL DOLLARS	FORCE ACCOUNT DOLLARS
a.) Basic Engineering Services:		$_____.00	
Preliminary Design	$		
Final Design	$		
Bidding	$_____. 00		
Construction Phase	$_____. 00		
Additional Engineering Services *Identify services and costs below.		$_____.00	
b.) Acquisition Expenses: Land and/or Right-of-Way		$_____	
c.) Construction Costs:		$ ~~3,636,364.00~~	2,000,000
d.) Equipment Purchased Directly:		$_____.00	
e.) Permits, Advertising, Legal: (Or Interest Costs for Loan Assistance Applications Only)		$_____.00	
f.) Construction Contingencies:		$ ~~363,636.00~~	
g.) TOTAL ESTIMATED COSTS:		$ ~~4,000,000.00~~	2,000,000

*List Additional Engineering Services here:
Service: Cost:

1.2 **PROJECT FINANCIAL RESOURCES:**
(Round to Nearest Dollar and Percent)

		DOLLARS	%
a.)	Local In-Kind Contributions	$_____.00	
b.)	Local Revenues	$~~1,200,000.00~~ 600,000	30
c.)	Other Public Revenues	$_____.00	
	ODOT	$_____.00	
	Rural Development	$_____.00	
	OEPA	$_____.00	
	OWDA	$_____.00	
	CDBG	$_____.00	
	OTHER _____	$_____.00	
	SUBTOTAL LOCAL RESOURCES:	$ 1,200,000 .00	30
d.)	OPWC Funds		
	1. Grant	$~~2,800,000.00~~ 1,400,000	70
	2. Loan	$_____.00	
	3. Loan Assistance	$_____.00	
	SUBTOTAL OPWC RESOURCES:	$ ~~2,800,000.00~~ 1,400,000	70
e.)	TOTAL FINANCIAL RESOURCES:	$ ~~4,000,000.00~~ 2,000,000	100%

1.3 **AVAILABILITY OF LOCAL FUNDS:**

Attach a statement signed by the Chief Financial Officer listed in section 5.2 certifying all local share funds required for the project will be available on or before the earliest date listed in the Project Schedule section.

ODOT PID# _____ **Sale Date:**
STATUS: (Check one)
Traditional
Local Planning Agency (LPA)
State Infrastructure Bank

2.0 PROJECT INFORMATION

If project is multi-jurisdictional, information must be consolidated in this section.

2.1 PROJECT NAME: Spring Grove/Clifton Improvements

2.2 BRIEF PROJECT DESCRIPTION - (Sections A through C):

A: SPECIFIC LOCATION:

Spring Grove Avenue from 250 feet west of Winton Road to 250 feet east of Mitchell Avenue and from the Clifton Avenue intersection with Spring Grove to 200 south of bridge abutment.

PROJECT ZIP CODE: 45232

B: PROJECT COMPONENTS:

Horizontal geometric improvements to the roadway on Spring Grove between Winton & Mitchell including changes at the Clifton intersection. Highway work includes concrete base and asphalt surface; new sidewalk on both sides of street, street lights, traffic signals, and overhead signage. The bridge spanning the Mill Creek on Clifton will be replaced with this project. Project will address safety countermeasures using pavement markings, LED signal heads, and overhead signage as further detailed in the ASI on Mitchell, Winton, Clifton, and Spring Grove.

C: PHYSICAL DIMENSIONS / CHARACTERISTICS:

Project covers 2,400 linear feet on Spring Grove and is seven lanes.
Project covers 150 linear feet of bridge spanning the Mill Creek.

D: DESIGN SERVICE CAPACITY:

Detail current service capacity vs. proposed service level.

Road or Bridge: Current ADT 33,707 Year: 1995 Projected ADT: _____ Year:

Water/Wastewater: Based on monthly usage of 7,756 gallons per household, attach current rate ordinance. Current Residential Rate: $_____ Proposed Rate: $

Stormwater: Number of households served:

2.3 USEFUL LIFE / COST ESTIMATE: Project Useful Life: 20 Years.

Attach Registered Professional Engineer's statement, with original seal and signature confirming the project's useful life indicated above and estimated cost.

3.0 REPAIR/REPLACEMENT or NEW/EXPANSION:

TOTAL PORTION OF PROJECT REPAIR/REPLACEMENT	~~$4,000,000.00~~ 2,000,000
TOTAL PORTION OF PROJECT NEW/EXPANSION	$_____.00

4.0 PROJECT SCHEDULE: *

		BEGIN DATE	END DATE
4.1	**Engineering/Design:**	9/1/07	9/1/08
4.2	**Bid Advertisement and Award:**	9/1/08	12/31/08
4.3	**Construction:**	1/1/09	2/1/10
4.4	**Right-of-Way/Land Acquisition:**	/ /	/ /

* Failure to meet project schedule may result in termination of agreement for approved projects. Modification of dates must be requested in writing by the CEO of record and approved by the commission once the Project Agreement has been executed. The project schedule should be planned around receiving a Project Agreement on or about July 1st.

5.0 APPLICANT INFORMATION:

5.1	CHIEF EXECUTIVE OFFICER	Scott Stiles
	TITLE	Assistant City Manager
	STREET	Room 104, City Hall 801 Plum Street
	CITY/ZIP	Cincinnati, Ohio 45202
	PHONE	(513) 352-3475
	FAX	(513) 352-2458
	E-MAIL	
5.2	CHIEF FINANCIAL OFFICER	Joe Gray
	TITLE	Acting Finance Director
	STREET	Room 250, City Hall 801 Plum Street
	CITY/ZIP	Cincinnati, Ohio 45202
	PHONE	(513) 352-5372
	FAX	
	E-MAIL	
5.3	PROJECT MANAGER	Don Gindling
	TITLE	Principal Construction Engineer
	STREET	Room 450, City Hall 801 Plum Street
	CITY/ZIP	Cincinnati, Ohio 45202
	PHONE	(513) 352-1518
	FAX	
	E-MAIL	

Changes in Project Officials must be submitted in writing from the CEO.

6.0 ATTACHMENTS/COMPLETENESS REVIEW:

Confirm in the blocks [ ] below that each item listed is attached.

[ ] **A certified copy of the legislation by the governing body of the applicant authorizing a designated official to sign and submit this application and execute contracts. This individual should sign under 7.0, Applicant Certification, below.**

[X] **A certification signed by the applicant's chief financial officer stating all local share funds required for the project will be available on or before the dates listed in the Project Schedule section. If the application involves a request for loan (RLP or SCIP), a certification signed by the CFO which identifies a specific revenue source for repaying the loan also must be attached. Both certifications can be accomplished in the same letter.**

[X] **A registered professional engineer's detailed cost estimate and useful life statement, as required in 164-1-13, 164-1-14, and 164-1-16 of the Ohio Administrative Code. Estimates shall contain an engineer's original seal or stamp and signature.**

[ ] **A cooperation agreement (if the project involves more than one subdivision or district) which identifies the fiscal and administrative responsibilities of each participant.**

[ ] **Projects which include new and expansion components and potentially affect productive farmland should include a statement evaluating the potential impact. If there is a potential impact, the Governor's Executive Order 98-VII and the OPWC Farmland Preservation Review Advisory apply.**

[ ] **Capital Improvements Report: (Required by O.R.C. Chapter 164.06 on standard form)**

[X] **Supporting Documentation: Materials such as additional project description, photographs, economic impact (temporary and/or full time jobs likely to be created as a result of the project), accident reports, impact on school zones, and other information to assist your district committee in ranking your project. Be sure to include supplements, which may be required by your *local* District Public Works Integrating Committee.**

7.0 APPLICANT CERTIFICATION:

The undersigned certifies that: (1) he/she is legally authorized to request and accept financial assistance from the Ohio Public Works Commission; (2) to the best of his/her knowledge and belief, all representations that are part of this application are true and correct; (3) all official documents and commitments of the applicant that are part of this application have been duly authorized by the governing body of the applicant; and, (4) should the requested financial assistance be provided, that in the execution of this project, the applicant will comply with all assurances required by Ohio Law, including those involving Buy Ohio and prevailing wages.

Applicant certifies that physical construction on the project as defined in the application has NOT begun, and will not begin until a Project Agreement on this project has been executed with the Ohio Public Works Commission. Action to the contrary will result in termination of the agreement and withdrawal of Ohio Public Works Commission funding of the project.

Scott Stiles, Assistant City Manager
Certifying Representative (Type or Print Name and Title)

Scott Stiles 9/14/07
Signature/Date Signed

September 10, 2007

Subject: Clifton Avenue/Spring Grove Avenue Improvements
Certification of Useful Life for OPWC Projects

As required by Chapter 164-1-13 of the Ohio Administrative Code, I hereby certify that the design useful life of the subject bridge replacement is at least fifty (50) years.

(seal)

Reiner Reising, P.E.
Senior Engineer
City of Cincinnati

September 10, 2007

Subject: Clifton Avenue/Spring Grove Avenue Improvements
Certification of Useful Life for OPWC Projects

As required by Chapter 164-1-13 of the Ohio Administrative Code, I hereby certify that the design useful life of the subject street reconstruction is at least twenty (20) years.

(seal)

Gregory D. Long

Gregory D. Long, P.E.
Supervising Engineer
City of Cincinnati

Spring Grove Avenue/Clifton Avenue Bridge

Preliminary Estimate

TOTAL

REF.	ITEM NO.	TOTAL	UNIT	DESCRIPTION	EST. UNIT PRICE	ESTIMATED COST
1	103.05	Lump	Sum	Contract Bond	$75,000.00	$75,000.00
2	Special	4	ea.	Project Signs	$500.00	$2,000.00
3	201	Lump	Sum	Clearing and Grubbing	$15,000.00	$15,000.00
4	202	Lump	Sum	Structure Removed	$90,000.00	$90,000.00
5	202	133	s.y.	Structure Removed	$46.00	$6,118.00
6	202	425	l.f.	Fence Removed	$10.00	$4,250.00
7	202	700	s.y.	Concrete Pavement Removed	$25.00	$17,500.00
8	202	125	s.y.	Concrete Island Removed	$15.00	$1,875.00
9	202	150	l.f.	Pipe Removed	$10.00	$1,500.00
10	202	250	s.f.	Sidewalk Removed	$3.50	$875.00
11	202	2	ea.	Inlet Removed	$300.00	$600.00
12	202	2	ea.	Inlet Abandoned	$300.00	$600.00
13	202	2	ea.	Manhole Abandoned	$500.00	$1,000.00
14	203	365	c.y.	Granular Backfill	$42.00	$15,330.00
15	203	100	c.y.	Embankment	$25.00	$2,500.00
16	203	100	c.y.	Excavation	$20.00	$2,000.00
17	204	1,187	s.y.	Subgrade Compaction	$2.00	$2,374.00
18	204	80	hr.	Proof Rolling	$50.00	$4,000.00
19	254	19,930	s.y.	Pavement Planing, Bituminous	$1.75	$34,877.00
20	301	66	c.y.	Asphalt Concrete Base	$125.00	$8,250.00
21	304	125	c.y.	Aggregate Base	$40.00	$5,000.00
22	305	700	s.y.	Concrete Base	$40.00	$28,000.00
23	448	652	c.y.	Asphalt Concrete Intermediate Course, Type 1	$125.00	$81,500.00
24	448	912	c.y.	Asphalt Concrete Surface Course, Type 1	$125.00	$114,000.00
25	503	441	c.y.	Excavation For Structures	$35.50	$15,655.50
26	503	1	L.S.	Cofferdams, Cribs & Sheeting	$35,000.00	$35,000.00
27	505	1	L.S.	Pile Driving Equipment Mobilization	$18,000.00	$18,000.00
28	507	2,712	l.f.	Piles, Furnishing and Driving	$27.50	$74,580.00
29	509	79,999	lb.	Epoxy Coated Reinforcing Steel	$1.00	$79,999.00
30	510	50	e.a.	Dowel Holes	$20.00	$1,000.00
31	511	300	c.y.	Class S Concrete	$775.00	$232,500.00
32	511	33	c.y.	Class S Concrete, Wall	$3,750.00	$124,987.50
33	511	50	c.y.	Class S Concrete, Walks	$500.00	$25,000.00
34	511	190	c.y.	Class S Concrete, Abutments	$500.00	$95,000.00
35	511	70	c.y.	Class S Concrete, Backwall	$590.00	$41,300.00
36	512	390	s.y.	Sealing Of Concrete Surfaces, Substructure - Epoxy	$23.50	$9,165.00
37	512	1,600	s.y.	Sealing Of Concrete Surfaces, Non-epoxy	$9.00	$14,400.00
38	512	62	s.y.	Type 2 Membrane Waterproofing	$16.50	$1,023.00
39	513	415,000	lb.	Structural Steel	$1.95	$809,250.00
40	514	1	L.S.	Field Painting Of New Steel, System IZEU	$40,000.00	$40,000.00
41	516	140	l.f.	Structural Expansion Joint Including Strip Seal	$450.00	$63,000.00
42	516	20	e.a.	Elastomeric Bearing Pads with Loadplate	$1,000.00	$20,000.00
43	517	300	l.f.	Reinforced Concrete Railing	$260.00	$78,000.00
44	518	1	L.S.	Structure Drainage	$2,500.00	$2,500.00
45	519	200	s.f.	Patching Concrete Structures	$30.00	$6,000.00
46	523	1	L.S.	Dynamic Load Test	$500.00	$500.00
47	526	187	s.y.	Approach Slab (15" Thick)	$195.00	$36,465.00
48	601	170	s.y.	Concrete Slope Protection	$70.00	$11,900.00
49	603	25	l.f.	Reestablish Sanitary Lateral Connection	$100.00	$2,500.00
50	603	250	l.f.	12" Conduit, Type H	$100.00	$25,000.00
51	603	50	l.f.	18" Conduit, Type B	$100.00	$5,000.00
52	603	25	l.f.	24" Conduit, Type B	$100.00	$2,500.00
53	603	25	l.f.	30" Conduit, Type B	$250.00	$6,250.00
54	603	25	l.f.	36" Conduit, Type B	$350.00	$8,750.00
55	604	5	ea.	Manhole	$3,500.00	$17,500.00
56	604	2	ea.	Combination Inlet Manhole (CIMH)	$2,500.00	$5,000.00
57	604	2	ea.	Ditch Inlet (DI)	$1,600.00	$3,200.00
58	604	4	ea.	Double Gutter Inlet (DGI)	$2,000.00	$8,000.00
59	604	6	ea.	Manhole Reconstructed to Grade	$1,000.00	$6,000.00
60	604	5	ea.	Manhole Adjusted to Grade Without Adjusting Rings	$500.00	$2,500.00
61	604	5	ea.	Double Gutter Inlet (DGI) Adjusted to Grade	$500.00	$2,500.00
62	605	200	l.f.	4 Inch Shallow Pipe Underdrain	$5.00	$1,000.00
63	606	1	L.S.	Guardrail and Bridge Terminal A	$20,000.00	$20,000.00

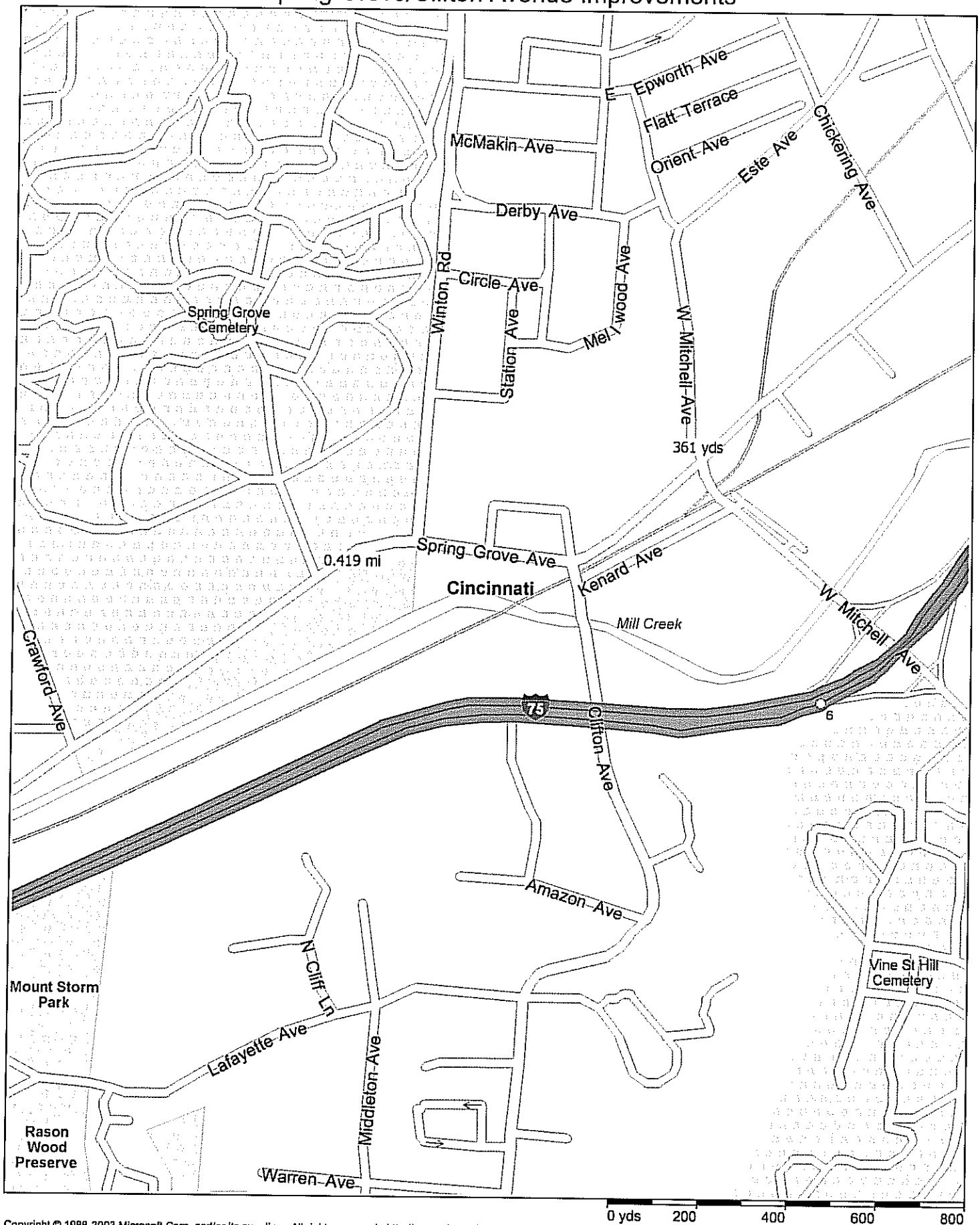
Spring Grove Avenue/Clifton Avenue Bridge						
Preliminary Estimate						TOTAL
REF.	ITEM NO.	TOTAL	UNIT	DESCRIPTION	EST. UNIT PRICE	ESTIMATED COST
64	607	1	L.S.	Fence	$2,500.00	$2,500.00
65	608	34,535	s.f.	Concrete Walk, 5 Inches	$6.00	$207,210.00
66	608	1,000	s.f.	Curb Ramp	$10.00	$10,000.00
67	608	200	s.f.	Detectable Warning, Type B	$10.00	$2,000.00
68	608	200	s.f.	Detectable Warning, Type O	$10.00	$2,000.00
69	609	5,270	l.f.	Concrete Curb, Type S-1	$20.00	$105,400.00
70	614	1	L.S.	Maintaining Traffic	$100,000.00	$100,000.00
71	616	250	mgal	Water (Dust Control)	$10.00	$2,500.00
72	619	Lump	Sum	Field Office, Type A	$5,000.00	$5,000.00
73	627	10,038	s.f.	Concrete Driveway	$8.00	$80,304.00
74	628	4,700	l.f.	Sawing Concrete	$3.00	$14,100.00
75	644	1.16	mi.	Thermoplastic Pavement Markings - Center Line, double yellow	$3,000.00	$3,480.00
76	644	1.25	mi.	Thermoplastic Pavement Markings - Edge Line, White	$2,000.00	$2,500.00
77	644	1,901	l.f.	Thermoplastic Pavement Markings - Crosswalk Line, 12" - white	$3.50	$6,653.50
78	644	2.20	mi.	Thermoplastic Pavement Markings - Lane Line, 4" - white	$4,000.00	$8,800.00
79	644	505	l.f.	Thermoplastic Pavement Markings - Stop Line, 12" - white	$5.00	$2,525.00
80	644	1,000	l.f.	Thermoplastic Pavement Markings - Transverse Line, Hatching	$3.00	$3,000.00
81	644	18	e.a.	Thermoplastic Pavement Markings - Lane Arrows, white	$90.00	$1,620.00
82	Special	50	s.f.	Retaining Wall	$500.00	$25,000.00
83	Special	3	ea.	Traffic Signal Complete	$75,000.00	$225,000.00
84	Special	Lump	Sum	Signing and Striping	$100,000.00	$100,000.00
85	Special	14	ea.	Street Lighting Complete	$8,000.00	$112,000.00
86	659	3,295	s.y.	Seeding and Mulching with Topsoil	$5.00	$16,475.00
87	Special	1	s.y.	Railroad Protective Liability Insurance	$50,000.00	$50,000.00
88	721.00	500	e.a.	Raised Pavement Markers	$150.00	$75,000.00
89	1101	10	l.f.	Furnishing and Laying 6" Ductile Iron Pipe and Fittings	$125.00	$1,250.00
90	1101	10	l.f.	Furnishing and Laying 8" Ductile Iron Pipe and Fittings	$100.00	$1,000.00
91	1110	2	c.y.	Concrete Class "C"	$140.00	$280.00
92	1112	3	ea.	Furnishing and Installing Fire Hydrant	$1,550.00	$4,650.00
93	1123	1	l.f.	Changing 8" and Under Pipe Sewer	$70.00	$70.00
94	1126	4	l.f.	Furnishing, Installing and Connecting 3/4" Copper Service Pipe	$56.00	$224.00
95	1126	4	l.f.	Furnishing, Installing and Connecting 1" Copper Service Pipe	$56.00	$224.00
96	1128	1	ea.	Reconnecting Existing 3/4" Service Branch	$400.00	$400.00
97	1131	1	ea.	Furnishing and Installing Curb and Roadway Box	$124.00	$124.00

TOTAL	$3,636,364
10% CONTINGENCY	$363,636
TOTAL ESTIMATED CONSTRUCTION COST	**$4,000,000**

Gregory D. Long, P.E.

STATE OF OHIO
GREGORY
LONG
E-66202
REGISTERED
PROFESSIONAL ENGINEER

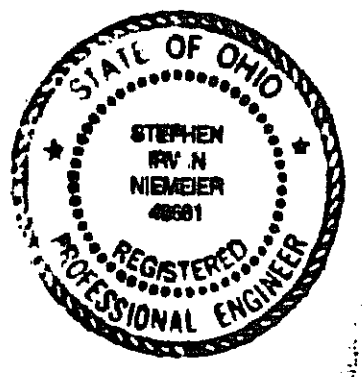
Spring Grove/Clifton Avenue Improvements

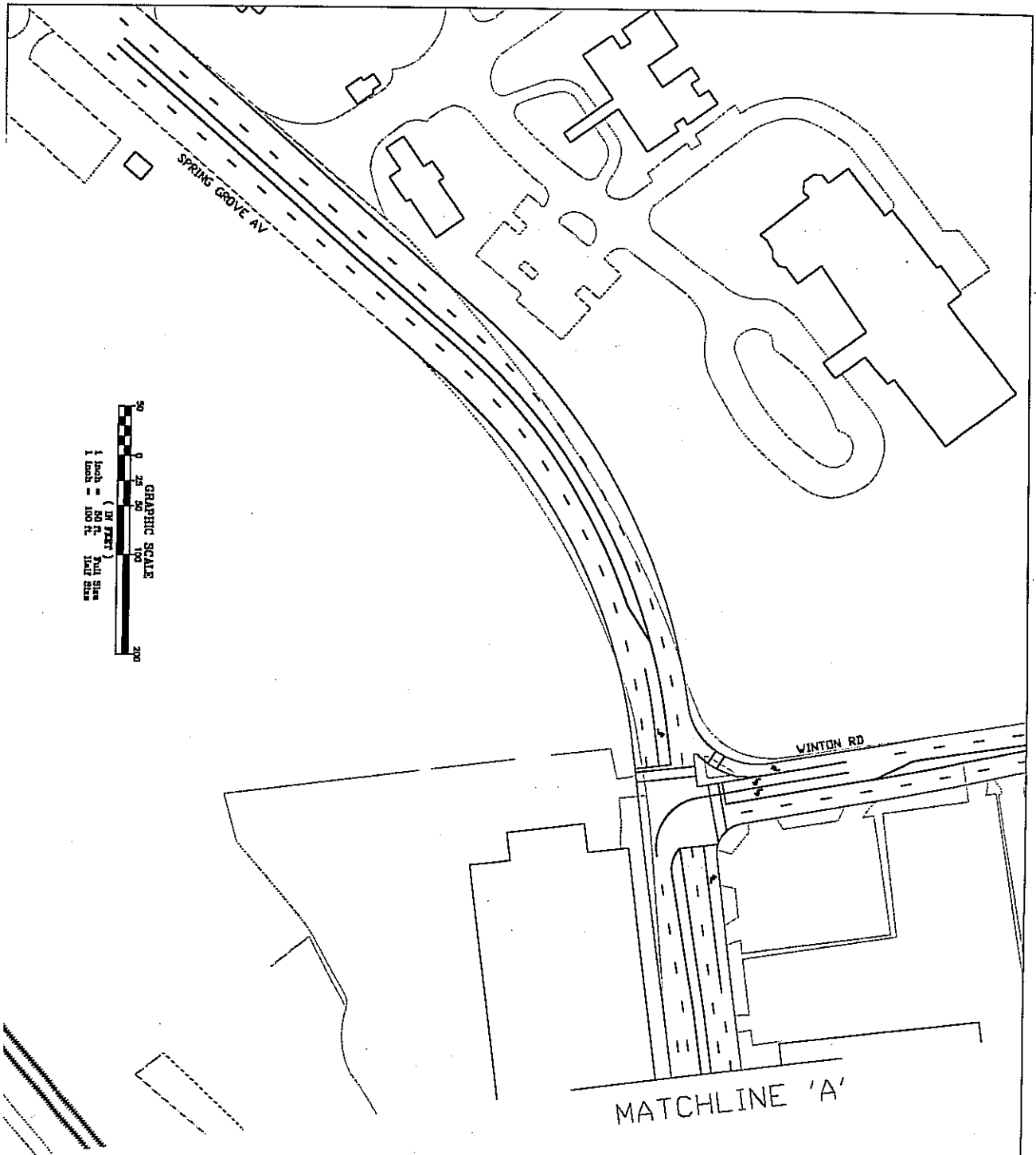


CERTIFICATION OF TRAFFIC COUNT

As required by the District 2 Integrating Committee, I hereby certify that the traffic counts herein attached to the **Clifton Avenue/Spring Grove Avenue Improvements** project application are a true and accurate count done by the City of Cincinnati's Traffic Engineering Division.

Stephen I. Niemeier, P.E.
Principal Traffic Engineer





SIGN:

PROFESSIONAL STAMP

Consultant

Drawn by	MGT	Date	9/7/06
Designed by	MGT	Date	9/7/06
Checked by	GDL	Date	9/7/06
Reviewed by	GDL	Date	9/7/06

Revisions

No.		

SPRING GROVE AV.
Proposed Layout
WINTON RD. - W. MITCHELL AV.

Department of Transportation and Engineering

City of Cincinnati
City Hall
801 Plum Street
Cincinnati, Ohio 45202

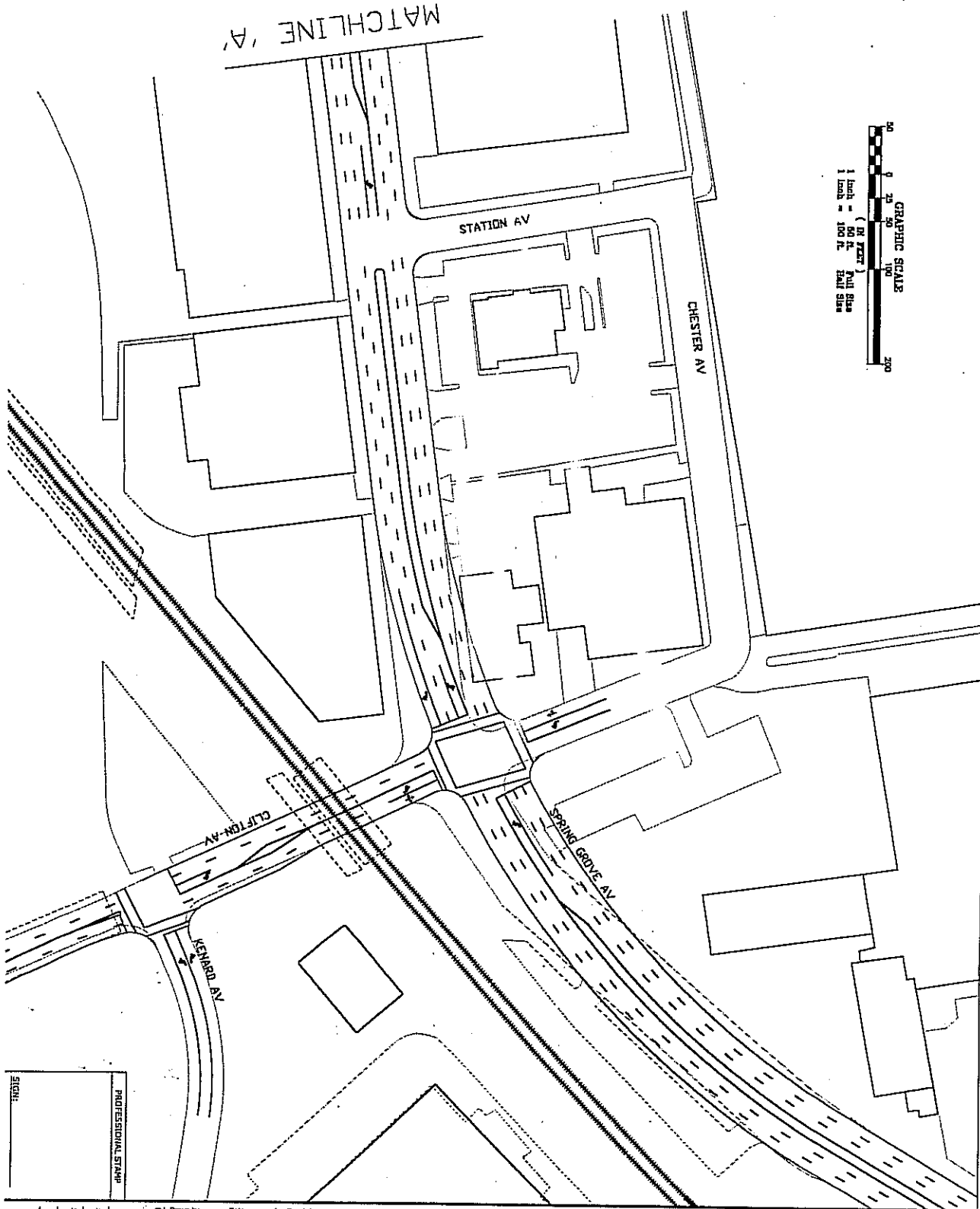
CONTRACT DRAWING

PRINTS OF THIS DRAWING THAT HAVE BEEN MADE FOR PRINTING & ADVERTISING PURPOSES, ARE NOT TO BE CONSIDERED FACSIMILES FOR CONTRACT PURPOSES

DEPARTMENT OF CITY OF CINCINNATI OHIO ENGINEERS & ARCHITECTS

ACC No.

Structure File Number



SIGN:

PROFESSIONAL STAMP

Consultant

Drawn by	MGT	Date 9/7/05
Designed by	MGT	Date 9/7/05
Checked by	GDL	Date 9/7/05
Reviewed by	GDL	Date 9/7/05

Revisions

No.		

SPRING GROVE AV.

Proposed Layout

WINTON RD. - W. MITCHELL AV.

Department of Transportation and Engineering

City of Cincinnati
801 Plum Street
Cincinnati, Ohio 45202

CONTRACT DRAWING

PRINTED DRAWING THIS ELECTRONIC FILE WAS CREATED FOR PLAN PURPOSES ONLY AND IS NOT CONSIDERED APPROVED FOR CONTRACT PURPOSES.

DEPARTMENT OF TRANSPORTATION & ENGINEERING CITY OF CINCINNATI OHIO

Structure Tie Number

ACC No.

2/4

BRIDGE NAME / INSPECTION ITEM	SFN	RATING
CLIFTON AVENUE BRIDGE OVER MILL CREEK	3136353	5 A
Inspected By: STEPHEN C. GRESSEL, P.E.	**PE:** PE **Init:** SCG	**Date:** 05/29/2007
Signature:		
Reviewed By: WILLIAM J. SHEFCIK, P.E.	**PE:** PE **Init:** WJS	**Date:** / /
Signature:		
Bridge #: COUNTY #05	**Insp Resp:** COUNTY	**Maint Resp:** COUNTY
County: HAM **Route:** CLIFT **Unit:** 3261	**BrType (Main/Appr Spans):** 320 /	**Year Built:** 3500
Survey: 00001NNN	**Needs to be Inventoried By:**	
Load Rating %: 100 **Load Rating Analyst Initials:**	**Load Rating Analysis Date:** / /	
Inspection satisfies AASHTO Manual for Maintenance Inspection of Bridges "Routine Inspection" requirements.		
Not all main structural members were inspected within "arms reach" distance.		
File Location: 22-30-37 TO 42		

1	FLOOR: Water sat. w/efflor; cracks; spalls; some repair (1986); exp reinf @ spalled areas; forms under walks.	4
2	WEARING SURFACE: Asphalt overlayed (2004); water ponding @ SE; minor cracking.	1
3	CURBS,SIDWLKS/WLK WAYS: Deep scaling; seepage @ curb line; minor trans. cracks; W curb crushing, CON'T Deck Notes BELOW	3
5	RAILING: WPA type railing; weathered; cracks; conc. deter; spalls @ corners; leaning outward slightly; gap @ NE.	2
6	DRAINAGE: 4 curb inlets w d/s, some plugged; water ponds @ curbs; drainpipe @ W missing.	3
7	EXPANSION JOINTS: Paved over w asphalt/sealed; exp. limited; reflective cracking; spalling of asphalt over jts. @ N & S.	3
8	DECK SUMMARY:	4
9	STR.ALIGNMENT:	1
10	BEAMS/GIRDERS/SLAB: Cracking; seepage; efflor; rust stains (esp. on inside E fascia); CON'T Superstructure Notes BELOW	2
11	DIAPHRAGMS/CROSSFRAMES: Minor deter. of encasing conc. @ E; diag. crack @ SW @ 2nd beam; several brackets, deter.	2
24	BEARING DEVICES: Covered w excess gunite material.	2
31	LIVE LOAD RESPONSE: Some vibration under truck loading.	S
32	SUPERSTRUCTURE SUMMARY: Redundant; not fatigue prone; misc. info in Lit. File (C-43 & 44).	5
33	ABUTMENTS: Vert. cracks; efflor. below fascia beams; abut. on piles; delam. @ S abut; spalling @ abut.	2
34	ABUTMENT SEATS: Debris; cracks; spalls & conc. deter; efflor; seepage; veg. growing.	3
35	PIERS: Vert. cracks @ E & W; pier on piles; vert. crack in center of pier N & S; vert. CON'T Substructure Notes BELOW	2
36	PIER SEATS: Deter. @ fascia; efflor; seepage.	2

BRIDGE NAME / INSPECTION ITEM		SFN	RATING
CLIFTON AVENUE BRIDGE OVER MILL CREEK		3136353	5 A
Inspected By: STEPHEN C. GRESSEL, P.E.	**PE:** PE **Init:** SCG **Date:** 05/29/2007		
Signature:			
Reviewed By: WILLIAM J. SHEFCIK, P.E.	**PE:** PE **Init:** WJS **Date:** / /		
Signature:			
Bridge #: COUNTY #05	**Insp Resp:** COUNTY **Maint Resp:** COUNTY		

37	BACKWALLS: Minor cracks @ corners.	2
38	WINGWALLS: Approx. 2" lat. mvmt. @ SW @ S end; approx. 1/8" wide diag. crack @ SE.	3
40	SUB.SCOUR: No scour d/t conc. channel lining. **Type:** 1	1
42	SUBSTRUCTURE SUMMARY:	6
51	CHA.ALIGNMENT:	1
52	PROTECTION: Conc. channel floor; conc. cribwalls & slope prot; minor cracks.	1
53	WATERWAY ADEQUACY: Sand & gravel accum. in channel.	2
54	CHANNEL SUMMARY:	7
55	PAVEMENT: Asphalt overlayed (2004).	2
56	APPROACH SLABS: Asphalt overlayed (2004); water ponds @ SE.	2
57	GUARDRAIL: Dec. handrail @ NE; gap bet. dec. & bridge rail; steel beam guardrail @ SE & NW; none @ other corner.	1
59	EMBANKMENT:	1
60	APPROACHES SUMMARY: Approach walk settled @ NE, SW & SE.	6
64	UTILITIES: Gas & water; beams supporting WM rusting w LOS; water main leaking. **Type:** NYNNNYN	3
65	VERTICAL CLEARANCE:	N
66	GEN/APPRAIS/OPERATIONS: Program bridge for superstructure replacement in 1 to 4 years. **Condition:**	5 A

Deck Notes:

CURBS,SIDWLKS/WLK WAYS CON'T: deter; lrg. long cracks & delam @ E; newer conc. walk; E curb delam/spalling.

Superstructure Notes:

BEAMS/GIRDERS/SLAB CON'T: some rust stains 2' wide; deter. of encasing conc. @ fascia beams (gunite repairs 1986-87); spalling of conc. encasement; debris behind beams inhibiting exp; spalling of conc. encasement @ BF of W beams @ N abut.

BRIDGE NAME / INSPECTION ITEM			SFN	RATING
CLIFTON AVENUE BRIDGE OVER MILL CREEK			3136353	5 A
Inspected By: STEPHEN C. GRESSEL, P.E.		**PE:** PE **Init:** SCG	**Date:** 05/29/2007	
Signature:				
Reviewed By: WILLIAM J. SHEFCIK, P.E.		**PE:** PE **Init:** WJS	**Date:** / /	
Signature:				
Bridge #: COUNTY #05	**Insp Resp:** COUNTY	**Maint Resp:** COUNTY		

Substructure Notes:

PIERS CON'T.: crack w efflor. @ under W beam - N face.

Maintenance Items:

1) Clean deck and drain holes.
2) Clear vegetation off walk @ SW.
3) Repair exp. jt. in walk @ NE.
4) Repair railing @ NE. - add section to close gap.

SCIP/LTIP PROGRAM
ROUND 22 - PROGRAM YEAR 2008
PROJECT SELECTION CRITERIA
JULY 1, 2008 TO JUNE 30, 2009

NAME OF APPLICANT: CINCINNATI

NAME OF PROJECT: SPRING GROVE / CLIFTON

RATING TEAM: 3

General Statement for Rating Criteria

Points awarded for all items will be based on engineering experience, field verification, application information and other information supplied by the applying agency, which is deemed to be relevant by the Support Staff. The examples listed in this addendum are not a complete list, but only a small sampling of situations that may be relevant to a given project.

CIRCLE THE APPROPRIATE RATING

1) **What is the physical condition of the existing infrastructure that is to be replaced or repaired?**

25 - Failed
23 - Critical
(20) - Very Poor
17 - Poor
15 - Moderately Poor
10 - Moderately Fair
5 - Fair Condition
0 - Good or Better

Pavement = 15 overall
Geometrics =
Bridge = 23

Pmt & Bridge = 38/2 = 19 + additional for geometrics = 20

Appeal Score _____

Criterion 1 - Condition

Condition of the particular infrastructure to be repaired, reconstructed or replaced shall be a measure of the degree of reduction in condition from its original state. **Historic pavement management data based on ASTM D6433-99 rating system may be submitted as documentation.** Capacity, serviceability, safety and health shall not be considered in this criterion. Any documentation the Applicant wishes to be considered must be included in the application package.

Definitions:

Failed Condition - requires complete reconstruction where no part of the existing facility is salvageable. (E.g. Roads: complete reconstruction of roadway, curbs and base; Bridges: complete removal and replacement of bridge; Underground: removal and replacement of an underground drainage or water system.

Critical Condition - requires partial reconstruction to maintain integrity. (E.g. Roads: reconstruction of roadway/curbs can be saved; Bridges: removal and replacement of bridge with abutment modification; Underground: removal and replacement of part of an underground drainage or water system.

Very Poor Condition - requires extensive rehabilitation to maintain integrity. (E.g. Roads: extensive full depth, partial depth and curb repair of a roadway with a structural overlay; Bridges: superstructure replacement; Underground: repair of joints and/or replacement of pipe sections.

Poor Condition - requires standard rehabilitation to maintain integrity. (E.g. Roads: moderate full depth, partial depth and curb repair to a roadway with no structural overlay needed or structural overlay with minor repairs to a roadway needed; Bridges: extensive patching of substructure and replacement of deck; Underground: insituform or other in ground repairs.

Moderately Poor Condition - requires minor rehabilitation to maintain integrity. (E.g. Roads: minor full depth, partial depth or curb repairs to a roadway with either a thin overlay or no overlay needed; Bridges: major structural patching and/or major deck repair.

Moderately Fair Condition - requires extensive maintenance to maintain integrity. (E.g. Roads: thin or no overlay with extensive crack sealing, minor partial depth and/or slurry or rejuvenation; Bridges: minor structural patching, deck repair, erosion control.)

Fair Condition - requires routine maintenance to maintain integrity. (E.g. Roads: slurry seal, rejuvenation or routine crack sealing to the roadway; Bridges: minor structural patching.)

Good or Better Condition - little to no maintenance required to maintain integrity.

Note: **If the infrastructure is in "good" or better condition, it will NOT be considered for SCIP/LTIP funding unless it is an expansion project that will improve serviceability.**

2) **How important is the project to the safety of the Public and the citizens of the District and/or service area?**

- 137 accidents / 3 ½ yrs
- accids / mill. vch = 4.7
- Crash tested bridge railings

25 - Highly significant importance
(20) - Considerably significant importance
15 - Moderate importance
10 - Minimal importance
5 – Poorly documented importance
0 - No measurable impact

Appeal Score _____

Criterion 2 – Safety

The applying agency shall include in its application the type ~~frequency, and severity~~ of ~~the safety problem~~ deficiency that currently exists and how the intended project would improve the situation. For example, have there been vehicular accidents attributable to the problems cited? Have they involved injuries or fatalities? In the case of water systems, are existing hydrants non-functional? In the case of water lines, is the present capacity inadequate to provide volumes or pressure for adequate fire protection? **In all cases, specific documentation is required.** Mentioned problems, which are poorly documented, ~~shall~~ **generally will** not receive more than 5 points.

Note: Each project is looked at on an individual basis to determine if any aspects of this category apply. **Examples given above are NOT intended to be exclusive.**

3) **How important is the project to the health of the Public and the citizens of the District and/or service area?**

25 - Highly significant importance
20 - Considerably significant importance
15 - Moderate importance
10 - Minimal importance
5 - Poorly documented importance
(0) No measurable impact

Appeal Score _____

Criterion 3 – Health

The applying agency shall include in its application the type, frequency, and severity of the health problem that would be eliminated or reduced by the intended project. For example, can the problem be eliminated only by the project, or would routine maintenance be satisfactory? If basement flooding has occurred, was it storm water or sanitary flow? What complaints if any are recorded? In the case of underground improvements, how will they improve health if they are storm sewers? How would improved sanitary sewers improve health or reduce health risk? **In all cases, quantified documentation is required.** Mentioned problems, which are poorly documented, ~~shall~~ **generally will** not receive more than 5 points.

Note: Each project is looked at on an individual basis to determine if any aspects of this category apply. **Examples given above are NOT intended to be exclusive.**

4) **Does the project help meet the infrastructure repair and replacement needs of the applying agency?**
Note: Applying agency's priority listing (part of the Additional Support Information) must be filed with application(s).

25 - First priority project
(20) Second priority project
15 -Third priority project
10 - Fourth priority project
5 - Fifth priority project or lower

Appeal Score _____

Criterion 4 – Jurisdiction's Priority Listing

The applying agency must submit a listing in priority order of the projects for which it is applying. Points will be awarded on the basis of most to least importance. The form is included in the Additional Support Information.

5) **To what extent will a user fee funded agency be participating in the funding of the project?**

(10) – Less than 10%
9 – 10% to 19.99%
8 – 20% to 29.99%
7 – 30% to 39.99%
6 – 40% to 49.99%
5 – 50% to 59.99%
4 – 60% to 69.99%
3 – 70% to 79.99%
2 – 80% to 89.99%
1 – 90% to 95%
0 – Above 95%

Appeal Score _____

Criterion 5 – User Fee-funded Agency Participation
To what extent will a user fee funded agency be participating in the funding of the project? (Example: rates for water or sewer, frontage assessments, etc.). The applying agency must submit documentation.

6) **Economic Growth – How the completed project will enhance economic growth (See definitions).**

10 – The project will directly secure new employment
(5) – The project will permit more development
0 – The project will not impact development

Appeal Score _____

Criterion 6 – Economic Growth
Will the completed project enhance economic growth and/or development in the service area?
Definitions:
Secure new employment: The project as designed will secure development/employers, which will immediately add new permanent employees to the jurisdiction. The applying agency must submit details.
Permit more development: The project as designed will permit additional business development/employment. The applying agency must supply details.
The project will not impact development: The project will have no impact on business development.

Note: **Each project is looked at on an individual basis to determine if any aspects of this category apply.**

7) **Matching Funds - LOCAL**

10 - This project is a loan or credit enhancement
10 – 50% or higher
8 – 40% to 49.99%
(6) – 30% to 39.99%
4 – 20% to 29.99%
2 – 10% to 19.99%
0 – Less than 10%

List total percentage of "Local" funds 30 **%**

Criterion 7 – Matching Funds – Local

The percentage of matching funds which come directly from the budget of the applying agency. Ten points shall be awarded if a loan request is at least 50% of the total project cost. (If the applying agency is not a user fee funded agency, any funds to be provided by a user fee generating agency will be considered "Matching Funds – Other").

8) Matching Funds – OTHER List total percentage of "Other" funds 0 %

10 – 50% or higher
8 – 40% to 49.99%
6 – 30% to 39.99%
4 – 20% to 29.99%
2 – 10% to 19.99%
1 – 1% to 9.99%
(0) – Less than 1%

List below each funding source and percentage

_____ _____ %
_____ _____ %
_____ _____ %
_____ _____ %
_____ _____ %

Criterion 8 – Matching Funds - Other
The percentage of matching funds that come from funding sources other than those mentioned in Criterion 7. A letter from the outside funding agency stating their financial participation in the project and the amount of funding is required to receive points. For MRF, a copy of the current application form filed with the Hamilton County Engineer's Office meets the requirement.

9) **Will the project alleviate serious capacity problems or hazards or respond to the future level of service needs of the district?**

10 - Project design is for future demand.
8 - Project design is for partial future demand.
6 - Project design is for current demand.
4 - Project design is for minimal increase in capacity.
(2) - Project design is for no increase in capacity.

Appeal Score
X (4)

- NOTHING INDICATING CHANGE IN LOS
- UNSUBSTANTIATED CLAIMS OF IMPROVED TRAFFIC FLOW.

Criterion 9 – Alleviate Capacity Problems
The applying agency shall provide a narrative, along with pertinent support documentation, which describe the existing deficiencies and showing how congestion will be reduced or eliminated and how service will be improved to meet the needs of any expected growth or development. A formal capacity analysis accompanying the application would be beneficial. Projected traffic or demand should be calculated as follows:

Formula:
Existing users x design year factor = projected users

Design Year	Design year factor		
	Urban	Suburban	Rural
20	1.40	1.70	1.60
10	1.20	1.35	1.30

Definitions:
Future demand – Project will eliminate existing congestion or deficiencies and will provide sufficient capacity or service for twenty-year projected demand or fully developed area conditions. Justification must be supplied if the area is already largely developed or undevelopable and thus the projection factors used deviate from the above table.
Partial future demand – Project will eliminate existing congestion or deficiencies and will provide sufficient capacity or service for ten-year projected demand or partially developed area conditions. Justification must be supplied if the area is already largely developed or undevelopable and thus the projection factors used deviate from the above table.
Current demand – Project will eliminate existing congestion or deficiencies and will provide sufficient capacity or service only for existing demand and conditions.
Minimal increase – Project will reduce but not eliminate existing congestion or deficiencies and will provide a minimal but less than sufficient increase in existing capacity or service for existing demand and conditions.
No increase – Project will have no effect on existing congestion or deficiencies and provide no increase in capacity or service for existing demand and conditions.

10) **Readiness to Proceed - If SCIP/LTIP funds are granted, when would the construction contract be awarded?**

(5) **Will be under contract by December 31, 2008 and no delinquent projects in Rounds 19 & 20**
3 - Will be under contract by March 31, 2009 and/or one delinquent project in Rounds 19 & 20
0 - Will not be under contract by March 31, 2009 and/or more than one delinquent project in Rounds 19 & 20

Criterion 10 – Readiness to Proceed
The Support Staff will assign points based on engineering experience and status of design plans. A project is considered delinquent when it has not received a notice to proceed within the time stated on the original application and no time extension has been granted by the OPWC. An applying agency receiving approval for a project and subsequently canceling the same after the bid date on the application will receive zero (0) points under this round and the following round.

11) **Does the infrastructure have regional impact? Consider origination and destination of traffic, functional classifications, size of service area, and number of jurisdictions served, etc.**

(10) **– Major Impact** Appeal Score
8 – Significant Impact
6 – Moderate Impact _____
4 – Minor Impact
2 – Minimal or No Impact

Criterion 11 - Regional Impact
The regional significance of the infrastructure that is being repaired or replaced.
Definitions:

Major Impact – Roads: Major Arterial: A direct connector to an Interstate Highway; Arterials are intended to provide a greater degree of mobility rather than land access. Arterials generally convey large traffic volumes for distances greater than one mile. A major arterial is a highway that is of regional importance and is intended to serve beyond the county. It may connect urban centers with one another and/or with outlying communities and employment or shopping centers. A major arterial is intended primarily to serve through traffic.

Significant Impact – Roads: Minor Arterial: A roadway, also serving through traffic, that is similar in function to a major arterial, but operates with lower traffic volumes, serves trips of shorter distances (but still greater than one mile), and may provide a higher degree of property access than do major arterials.

Moderate Impact – Roads: Major Collector: A roadway that provides for traffic movement between local roads/streets and arterials or community-wide activity centers and carries moderate traffic volumes over moderate distances (generally less than one mile). Major collectors may also provide direct access to abutting properties, such as regional shopping centers, large industrial parks, major subdivisions and community-wide recreational facilities, but typically not individual residences. Most major collectors are also county roads and are therefore through streets.

Minor Impact – Roads: Minor Collector: A roadway similar in functions to a major collector but which carries lower traffic volumes over shorter distances and has a higher degree of property access. Minor collectors may serve as main circulation streets within large, residential neighborhoods. Most minor collectors are also township roads and streets and may, or may not, be through streets.

Minimal or No Impact - Roads: Local: A roadway that is primarily intended to provide access to abutting properties. It tends to accommodate lower traffic volumes, serves short trips (generally within neighborhoods), and provides connections preferably only to collector streets rather than arterials.

12) What is the overall economic health of the jurisdiction?

10 Points
(8) Points
6 Points
4 Points
2 Points

Criterion 12 – Economic Health
The District 2 Integrating Committee predetermines the applying agency's economic health. The economic health of a jurisdiction may periodically be adjusted when census and other budgetary data are updated.

13) Has any formal action by a federal, state, or local government agency resulted in a partial or complete ban of the usage or expansion of the usage for the involved infrastructure?

10 - Complete ban, facility closed — Appeal Score
8 – 80% reduction in legal load or 4-wheeled vehicles only
7 – Moratorium on future development, *not* functioning for current demand _____
6 – 60% reduction in legal load
5 - Moratorium on future development, functioning for current demand
4 – 40% reduction in legal load
2 – 20% reduction in legal load
(0) – Less than 20% reduction in legal load

Criterion 13 - Ban
The applying agency shall provide documentation to show that a facility ban or moratorium has been formally placed. The ban or moratorium must have been caused by a structural or operational problem. Points will only be awarded if the end result of the project will cause the ban to be lifted.

14) What is the total number of existing daily users that will benefit as a result of the proposed project?

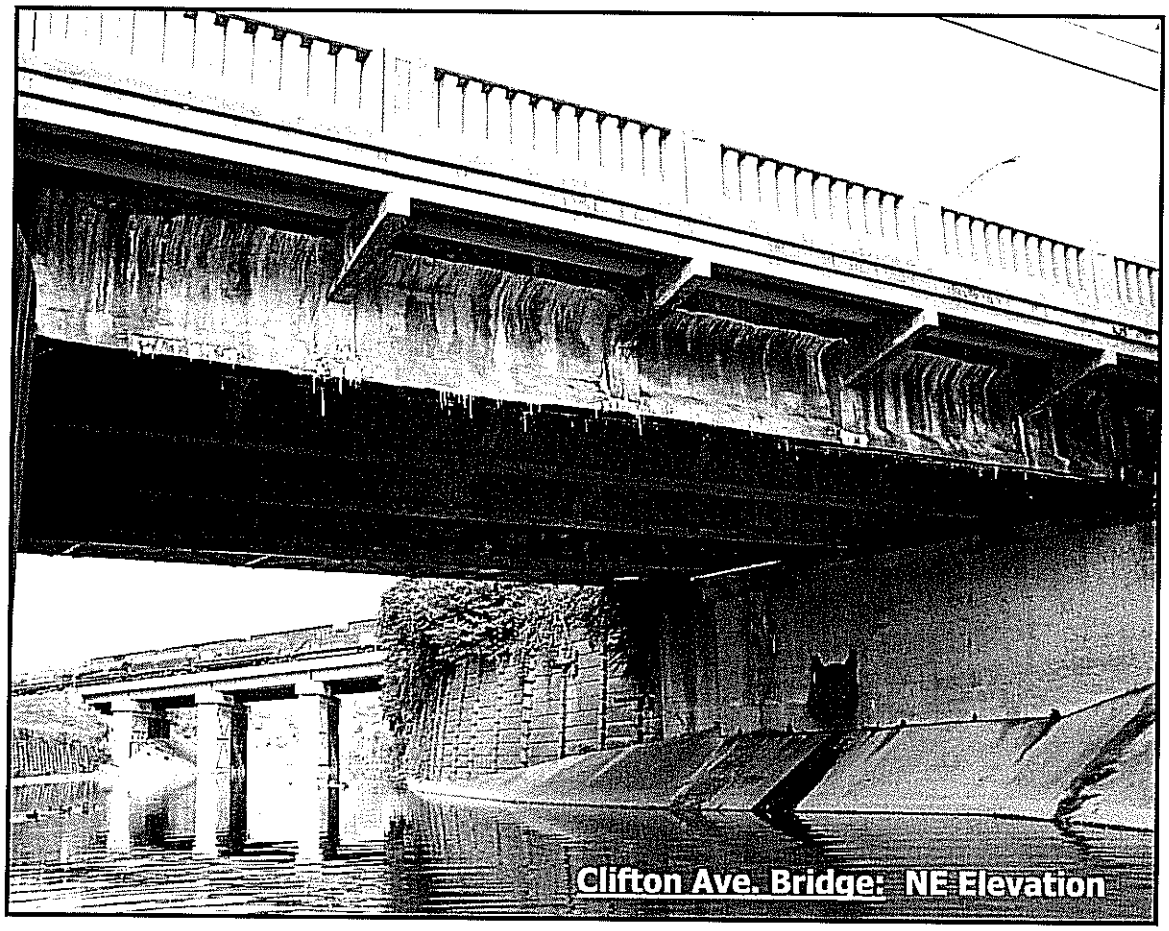
(10) ~~16,000~~ 30,000 or more — Appeal Score
8 - ~~12,000~~ 21,000 to 29,999 ~~15,999~~
6 - ~~8,000~~ 12,000 to 20,999 ~~11,999~~ _____
4 - ~~4,000~~ 3,000 to 11,999 ~~7,999~~
2 - ~~3,999~~ 2,999 and under

Criterion 14 - Users
The applying agency shall provide documentation. A registered professional engineer or the applying agency's C.E.O must certify the appropriate documentation. Documentation may include current traffic counts, households served, when converted to a measurement of persons. Public transit users are permitted to be counted for the roads and bridges, but only when certifiable ridership figures are provided.

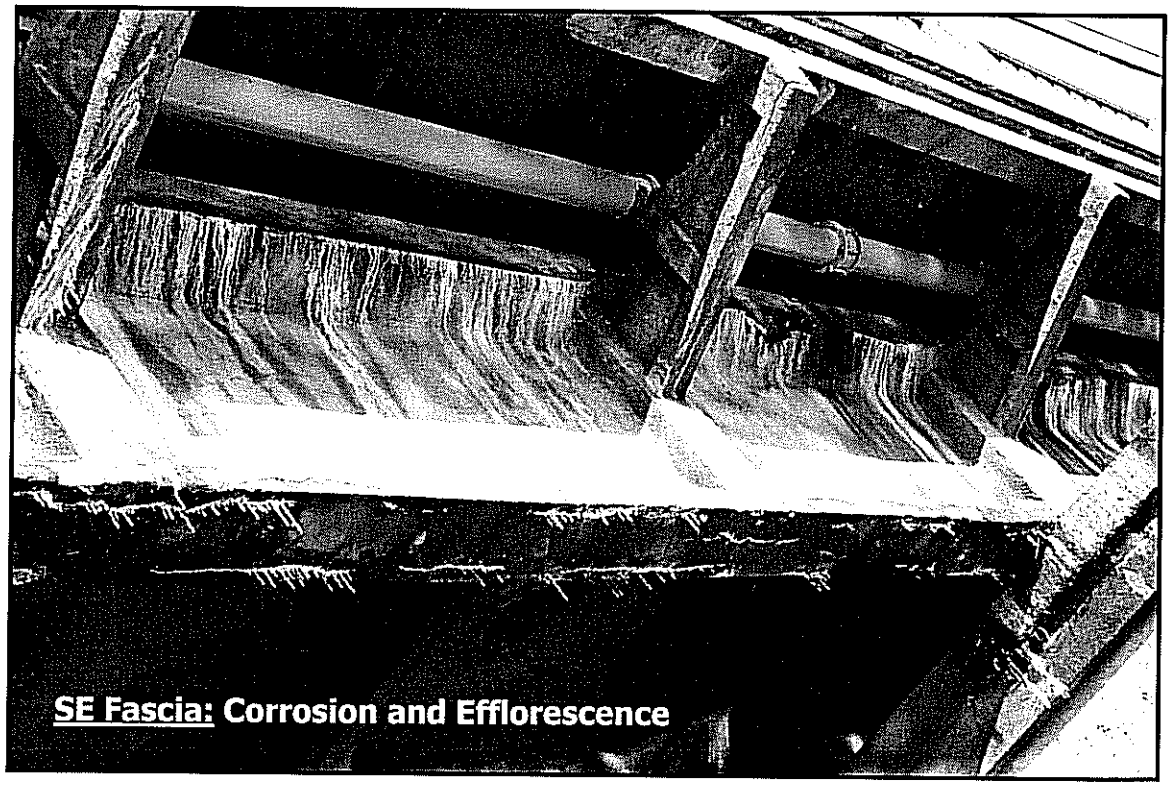
15) Has the applying agency enacted the optional $5 license plate fee, an infrastructure levy, a user fee, or dedicated tax for the pertinent infrastructure? *(Provide documentation of which fees have been enacted.)*

(5) - Two or more of the above — Appeal Score
(3) - One of the above
0 - None of the above _____

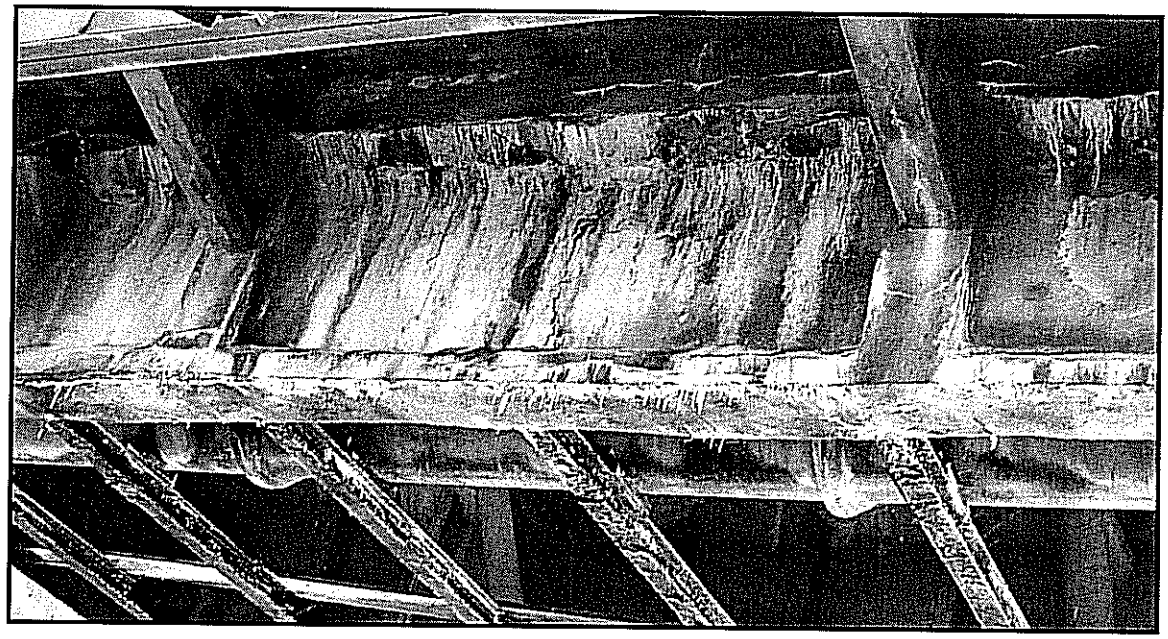
Criterion 15 – Fees, Levies, Etc.
The applying agency shall document (in the "Additional Support Information" form) which type of fees, levies or taxes they have dedicated toward the type of infrastructure being applied for.



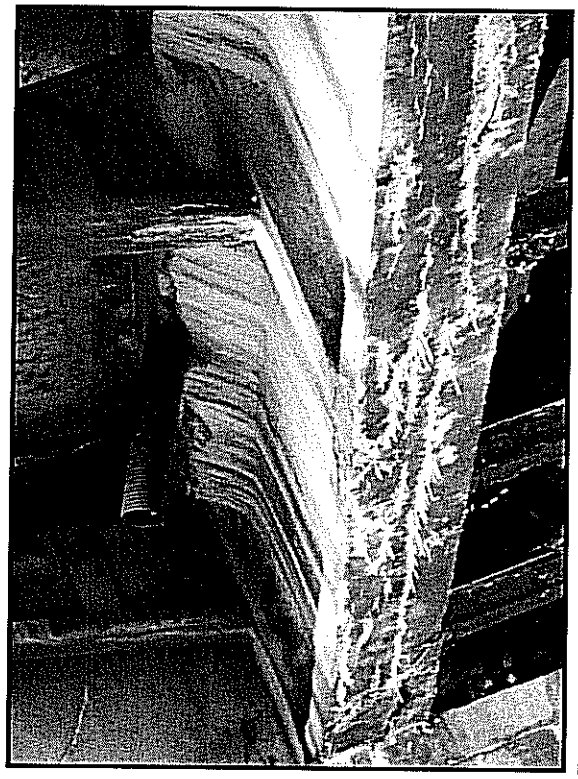
Clifton Ave. Bridge: NE Elevation

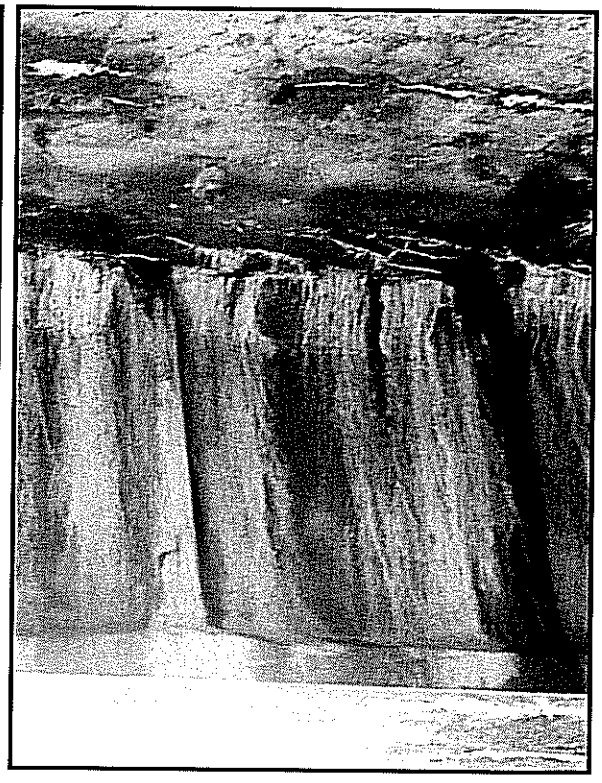


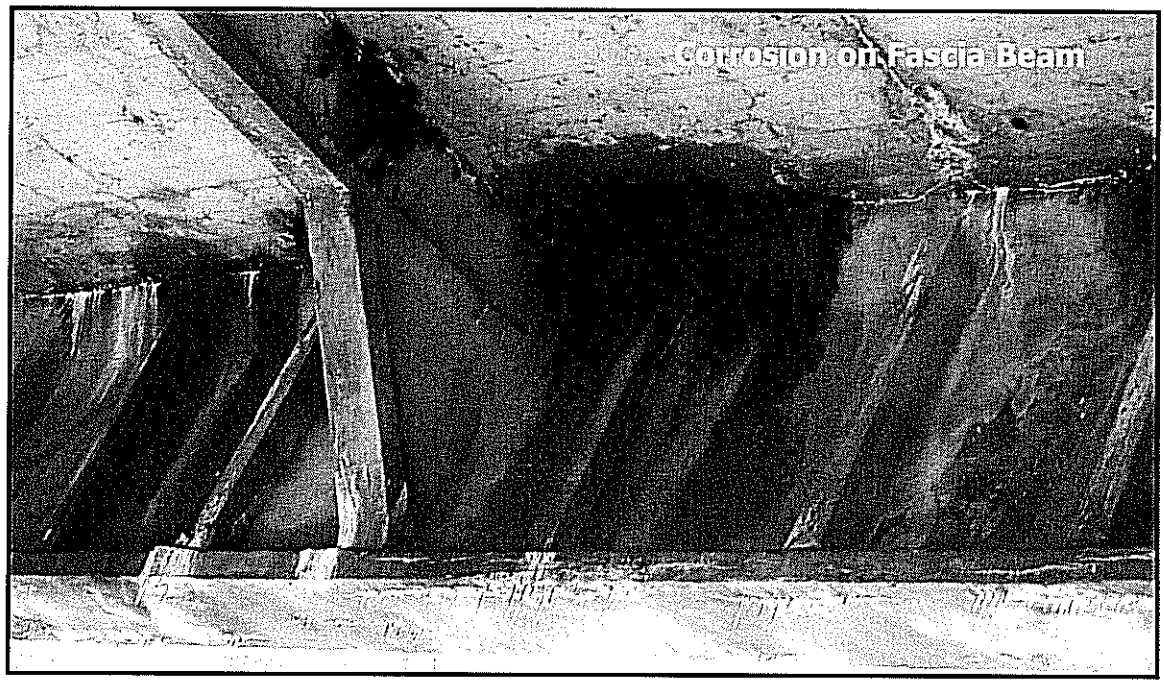
SE Fascia: Corrosion and Efflorescence

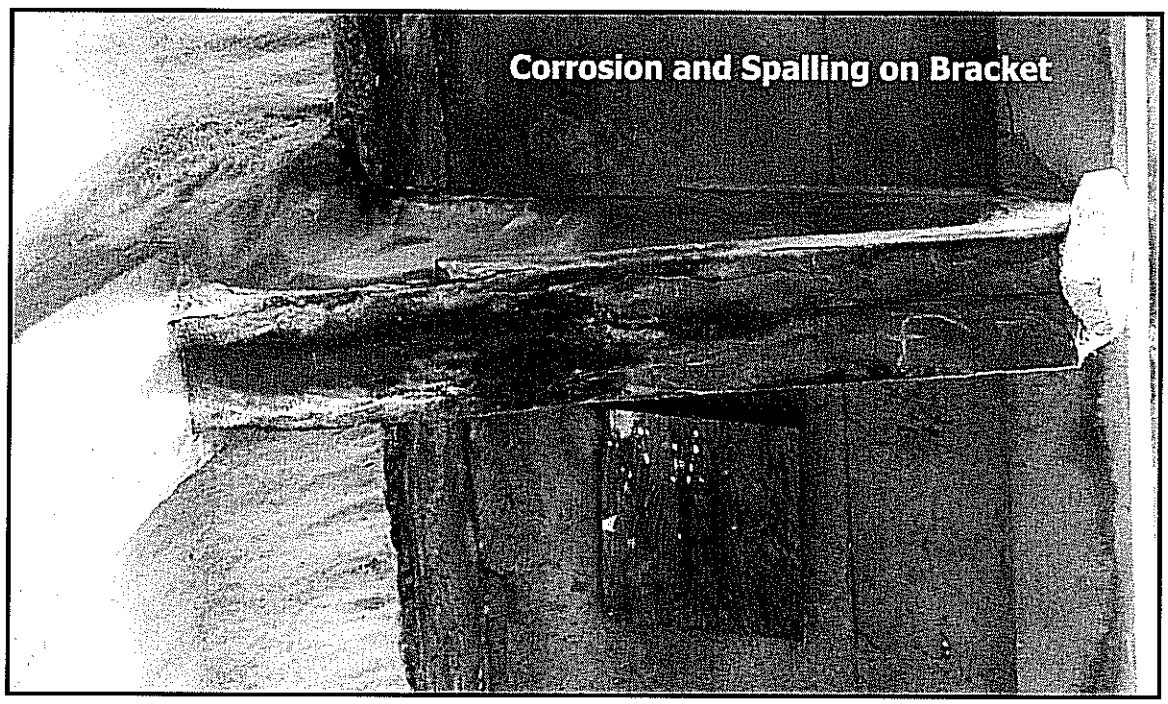


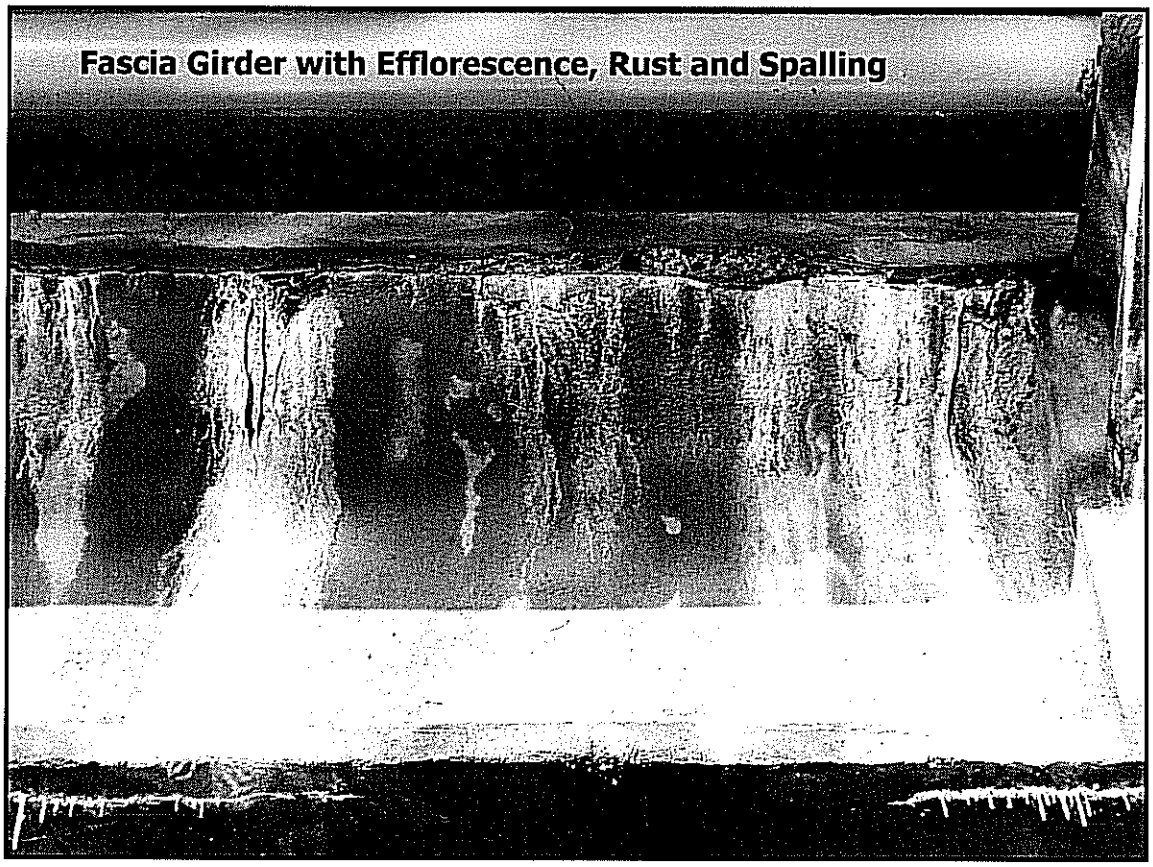
Efflorescence on Girders



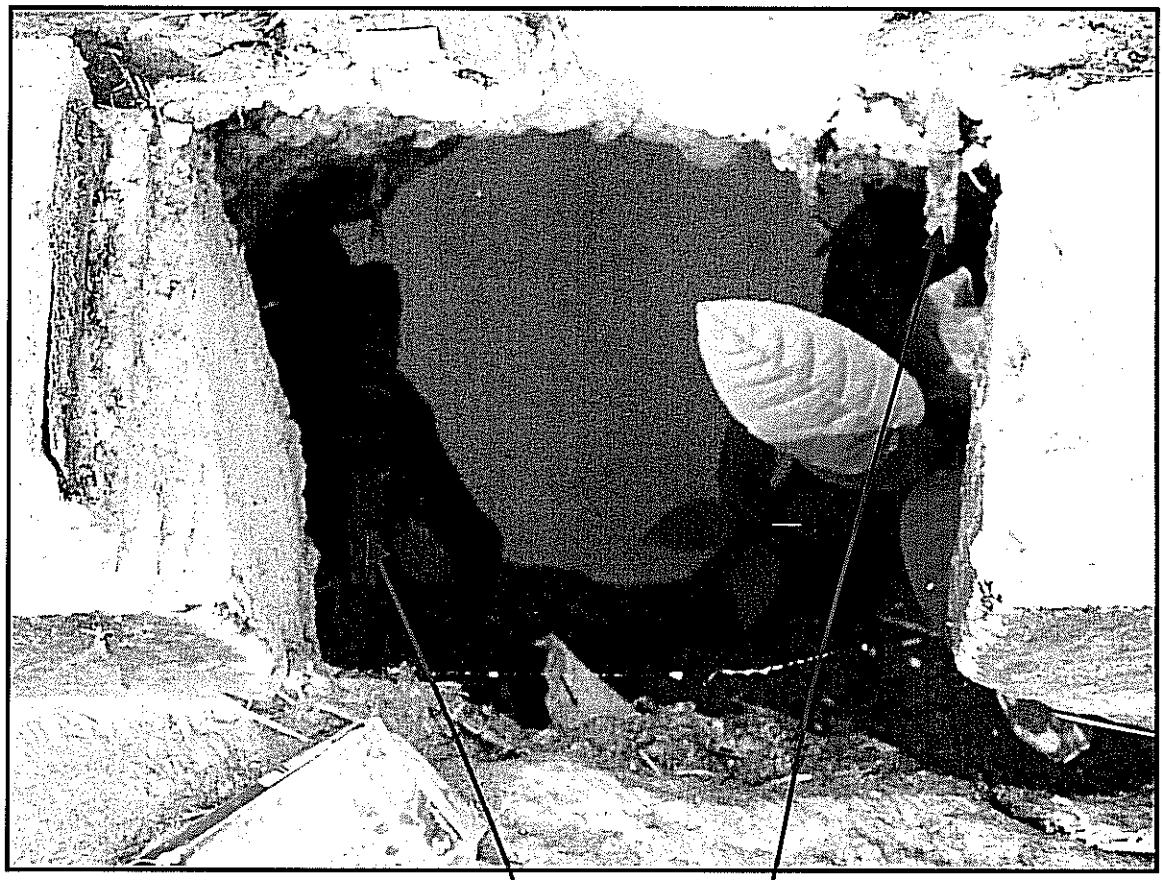



Corrosion on Fascia Beam


Corrosion and Spalling on Bracket

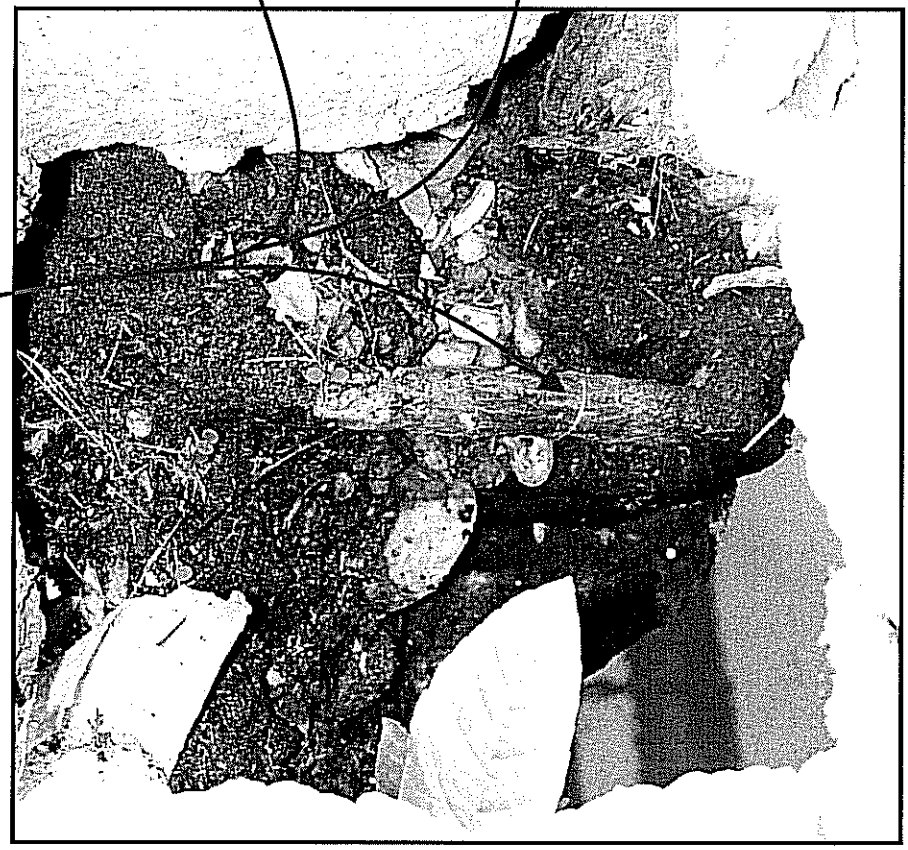

Fascia Girder with Efflorescence, Rust and Spalling

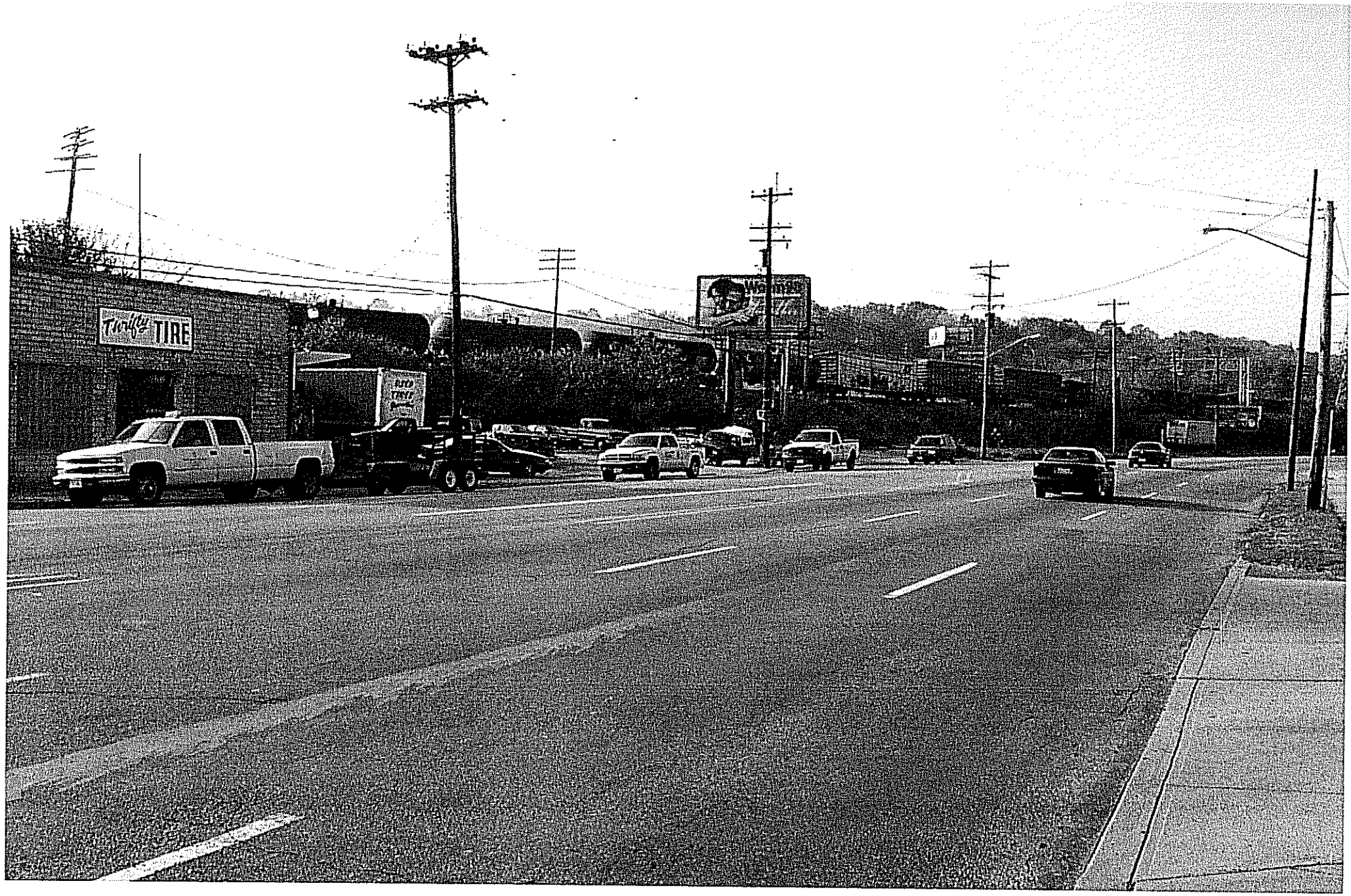

Spalling under Curb at Scupper

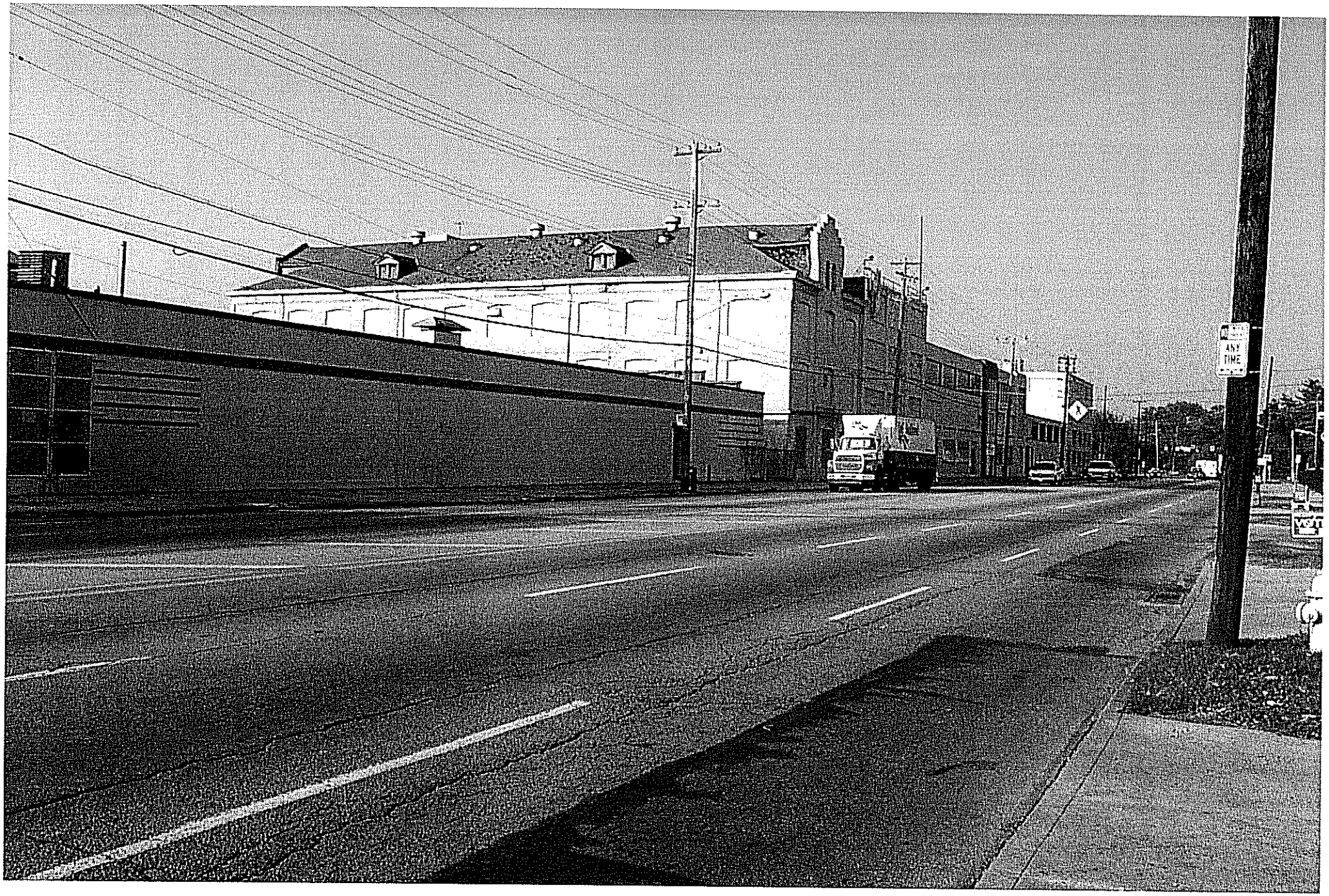


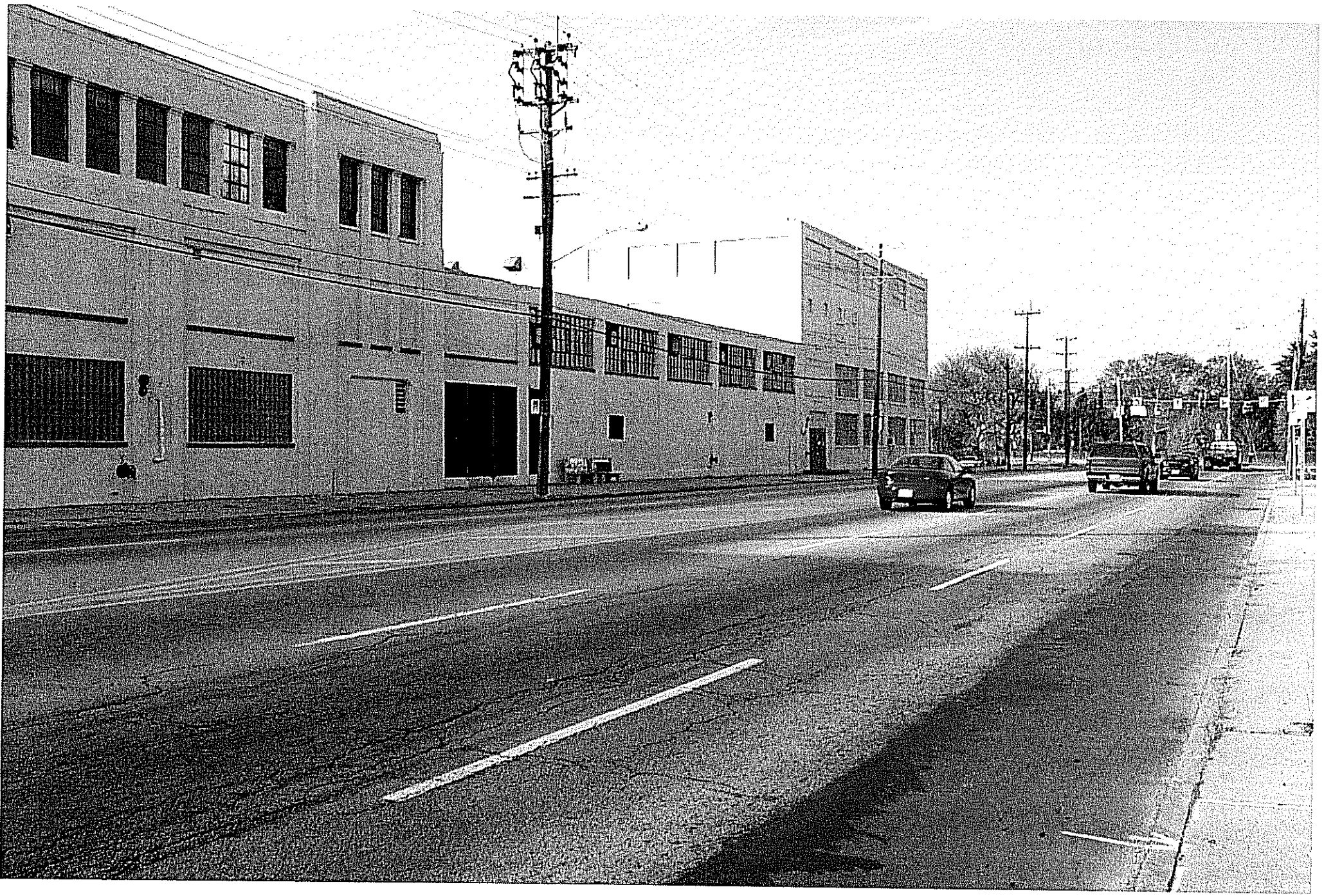
Spalling at Scupper

Deck Reinforcing Bar



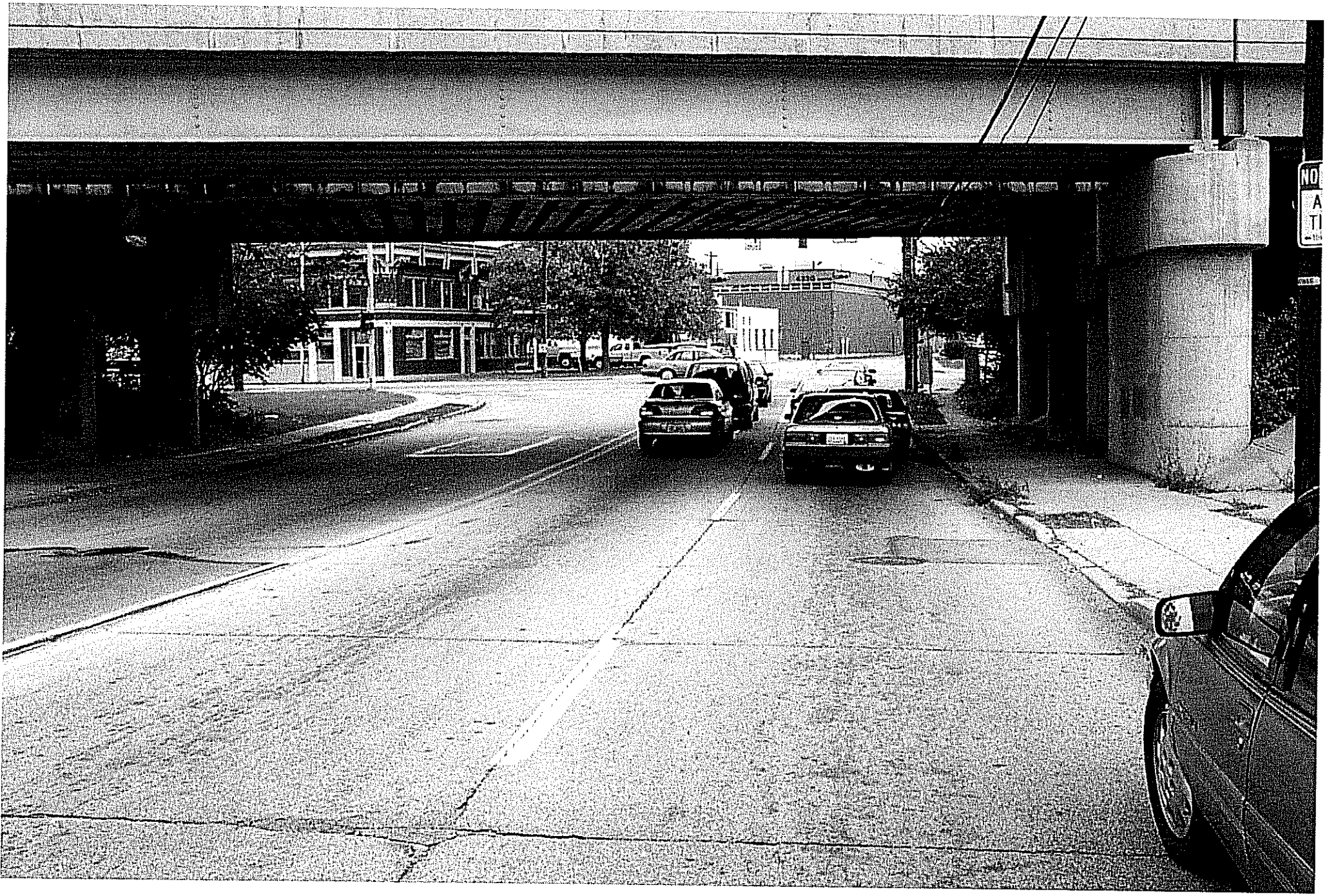

Thrifty TIRE


ANY
TIME




Returns faster than a Vegas wedding
H&R BLOCK


AHEAD



ADDITIONAL SUPPORT INFORMATION

Spring Grove/Clifton Improvements

For Program Year 2008 (July 1, 2008 through June 30, 2009), jurisdictions shall provide the following support information to help determine which projects will be funded. Information on this form must be accurate, and where called for, based on sound engineering principles. Documentation to substantiate the individual items, as noted, is required. The applicant should also use the rating system and its' addendum as a guide. The examples listed in this addendum are not a complete list, but only a small sampling of situations that may be relevant to a given project.

IF YOU ARE APPLYING FOR A GRANT, WILL YOU BE WILLING TO ACCEPT A LOAN IF ASKED BY THE DISTRICT? _____YES __X__NO (ANSWER REQUIRED)

Note: Answering "Yes" will not increase your score and answering "NO" will not decrease your score.

1) What is the physical condition of the existing infrastructure that is to be replaced or repaired?

Give a statement of the nature of the deficient conditions of the present facility exclusive of capacity, serviceability, health and/or safety issues. If known, give the approximate age of the infrastructure to be replaced, repaired, or expanded. Use documentation (if possible) to support your statement. Documentation may include (but is not limited to): ODOT BR86 reports, pavement management condition reports, televised underground system reports, age inventory reports, maintenance records, etc., and will only be considered if included in the original application.

Pavement:

Deficiencies: The pavement is in very poor condition due to severe cracking and significant base failures. A sampling of the pavement records for the jurisdiction as well as pictures are included to document the condition. Pavement has been rutted and shoved by traffic over the years. Thirty five pavement repair requests were received in a two and a half year period. The number of potholes and pavement repair requests serve to document the poor ride quality and deal specifically with the frequency and severity of the documented condition. (see the attached sampling of service requests from the Cincinnati Customer Service Response Database (CSR).

Solution: The project will provide smooth surface for motorists and repair base failures after the pavement has been resurfaced and the deficient base has been removed and replaced with fully supported new full depth repaired pavement.

Geometric Design:

Deficiencies: Substandard geometric design will be eliminated with the realignment of Spring Grove Avenue and Clifton Avenue. Poor curb alignment through the intersection and curve in the northeast direction has hampered traffic, making the existing driving conditions very difficult. The existing sidewalks on Spring Grove are crumbling and have deteriorated to the point that the walk cannot be safely traversed.

Solution: This project will eliminate the substandard geometry by realigning the intersection of Spring Grove and Clifton by establishing the correct horizontal curve.

Signals:

Deficiencies: The existing signals at Winton, Clifton, and Mitchell need to be upgraded as they have reached the end of their service life. Signal equipment becomes deteriorated and has operational issues as the infrastructure reaches its service life- the City of Cincinnati establishes 20 years as the service life. The signals in this project have all reached the end of the service life from either an operational perspective or safety perspective. The signal at Clifton and Spring Grove was built in 1987 and is now 20 years old; the signal at Mitchell and Spring Grove was built in 1979 and is 28 years old; Similarly, the signal at Winton and Spring Grove was built in 1992 and is 15 years old; however, this signal has significant operational issues as referenced by the attached Road Safety Audit performed by the Federal Highway Administration. Sixty seven signal repair and traffic sign repair requests were received in a two and a half year period. The number of requests for traffic signal and sign repair serve to document the poor condition of the infrastructure and deal specifically with the frequency and severity of the documented condition deficiencies and related repairs. (see the

attached sampling of service requests from the Cincinnati Customer Service Response Database (CSR).

Solution: The signals throughout the project will be rebuilt and sized according to safety guidelines (12 inch lenses and LED displays). Only a partial upgrade is needed for the signal at Winton in order to provide clearer signal indications for the southbound and westbound right turning lanes as well as the northbound movement from the private driveway on the south. The signal at Clifton will be totally rebuilt and redesigned to augment the right turn signal head on the current pole mounted location with an overhead span mounted situation, promoting better visibility (safer condition) and correcting the design deficiency. The signal at Mitchell will be totally rebuilt and upgraded from a pre-timed control to a fully actuated control via detection at all the intersection legs which will correct the existing signal operational deficiencies while also improving the efficiency of the intersection.

Bridge:

Deficiencies: The existing bridge was built in 1935. It was rated 5A (latest BR-86 report attached) during the latest routine bridge inspection and it is functionally obsolete. Despite a new asphalt overlay placed in 2004, the concrete deck is still original to the structure. The superstructure shows cracks, spalls and efflorescence. Evidence of corrosion of the concrete encased steel girders is most severe and pronounced on the inside face of the fascia girders caused by seepage throughout the deck at the curbline. The curbs exhibit deep scaling with seepage and vegetation (refer to photos).

Solution: Superstructure replacement with a single span steel bridge with composite concrete deck. Since the main structural elements will not be encased, visual inspections will be able to detect possible deficiencies as they form.

2) How important is the project to the safety of the Public and the citizens of the District and/or service area?

Give a statement of the projects effect on the safety of the service area. The design of the project is intended to reduce existing accident rate, promote safer conditions, and reduce the danger of risk, liability or injury. (Typical examples may include the effects of the completed project on accident rates, emergency response time, fire protection, and highway capacity.) Please be specific and provide documentation if necessary to substantiate the data. The applicant must demonstrate the type of problems that exist, the frequency and severity of the problems and the method of correction.

Pavement:

Safety Problem: The pavement has severe cracking and significant base failures.

Solution: The proposed project will improve the safety of the service area by supplying a better driving surface.

Signals/Pavement Marking/Access Management/Roadway Cross Section:

Safety Problem: The intersection of Winton and Spring Grove currently experiences the highest number of crashes for intersections in the City's network (137 crashes in a three and a half year period from January 2004 to June 2007). In the same period the intersection of Mitchell and Spring Grove has experienced 65 crashes while the intersection at Clifton has experienced 62 crashes (Mitchell is 20th and Clifton is 22nd). The corresponding rates are attached for each intersection as well as the corridor in general. Of note the intersection of Winton has an accident rate per million vehicle miles of 2.6 and the corridor as a whole has a rate of 4.7. (Clifton & Spring Grove accident rate = 1.4 and Mitchell & Spring Grove accident rate = 1.1). An independent road safety audit (RSA) was performed for the Spring Grove corridor from Winton to Clifton Avenue and serves to document the existing safety problems at the signalized intersection at Winton and Clifton. Table 2.1 from the RSA outlines the existing safety problems in detail (see attached). Also refer to the Cincinnati Customer Service Request database information which serves to document the frequency and severity of the signal problems.

Solution: The new alignment will improve visibility and allow for the proper geometry through the curve. The proposed improvements at the Clifton intersection with Kennard and Spring Grove reduce the conflicts between southbound left turning and through vehicles thus reducing rear end crashes. Signal improvements will upgrade the

operation of all the intersections. Specifically at Winton the operation will be improved as a signal head placed over the westbound right turn lane from Winton will clearly define when the movement is safe. Many significant crash countermeasures are being implemented with this project including the alignment of traffic signal heads with the approach lanes, use of redundant signal displays, upgrading signal lenses to 12 inch LED displays, use of back plates with reflective border on signal heads, placement of lane-use signs, adjusting stop bar locations, refreshing pavement markings, adding raised pavement markers, consolidation of driveways, elimination of turn movements on driveways at Kennard & Clifton, provide consistent level of lighting, upgrade lighting at midblock crosswalk, add signal phase for south leg of Winton and reconstructing the sidewalk along the project limits.

The addition of the countermeasures outlined serve to directly eliminate the documented accidents (rear end crashes, right angle crashes, sideswipe accidents, and the fixed object accidents- all of which can be directly attributed to the intersection geometry, signals and other problems cited. The reconstruction of traffic signals, realignment of the curve, resurfacing the roadway, and widening of the roadway to accommodate turn movements will rectify the documented safety problems. Accident data has been attached to provide documentation of the safety problems throughout the project area. The rates are above the City average for signalized intersection, and these facts speak directly to the frequency and severity of the stated problem.

Bridge:

Safety Problem: The current bridge railing is not crash tested according to NCHRP 350 safety standards. Only two corners are equipped with a guardrail system.

Solution: The new bridge will have a crash tested railing and be equipped with adequate guardrail on all corners. Additional bridge widening will eliminate safety issues due to geometry as described above. The new structure will be widened by 20 feet to allow for additional traffic lanes to accommodate safe movement of traffic.

3) How important is the project to the health of the Public and the citizens of the District and/or service area?

Give a statement of the projects effect on the health of the service area. The design of the project will improve the overall condition of the facility so as to reduce or eliminate potential for disease, or correct concerns regarding the environmental health of the area. (Typical examples may include the effects of the completed project by improving or adding storm drainage or sanitary facilities, replacing lead jointed water lines, etc.). Please be specific and provide documentation if necessary to substantiate the data. The applicant must demonstrate the type of problems that exist, the frequency and severity of the problems and the method of correction.

The project will have minimal impact on the health of the service area.

4) Does the project help meet the infrastructure repair and replacement needs of the applying jurisdiction?

The jurisdiction must submit a listing in priority order of the projects for which it is applying. Points will be awarded on the basis of most to least importance.

Priority 1 Clifton/West Clifton Avenue Improvements

Priority 2 Spring Grove/Clifton Avenue Improvements

Priority 3 Elberon Avenue Landslide Improvements

Priority 4 Colerain/Westfork/Virginia Improvements

Priority 5 Hamilton Avenue Phase 2 Improvements

5) To what extent will the user fee funded agency be participating in the funding of the project?

(example: rates for water or sewer, frontage assessments, etc.).

Minor casting adjustments and normal catch basin replacements will be included with the roadway construction activity: therefore, about 0.1% of the total construction costs are user fee agency related.

6) Economic Growth – How will the completed project enhance economic growth

Give a statement of the projects effect on the economic growth of the service area (be specific).

The proposed project will enhance the ongoing commercial development along Spring Grove, Clifton and Kennard. With the addition of commercial development sites comes more pedestrian traffic. This project will promote pedestrian traffic with the addition of street lighting, reconstructed sidewalk, upgraded crosswalk, and traffic signals along the corridor, therefore; increasing access to business and fostering new development.

7) Matching Funds - LOCAL

The information regarding local matching funds is to be filed by the applicant in Section 1.2 (b) of the Ohio Public Works Association's "Application For Financial Assistance" form.

8) Matching Funds - OTHER

The information regarding local matching funds is to be filed by the applicant in Section 1.2 (c) of the Ohio Public Works Association's "Application For Financial Assistance" form. If MRF funds are being used for matching funds, the MRF application must have been filed by August 31st of this year for this project with the Hamilton County Engineer's Office. List below all "other" funding the source(s).

9) Will the project alleviate serious capacity problems or respond to the future level of service needs of the district?

Describe how the proposed project will alleviate serious capacity problems (be specific).
The project is designed to prevent traffic problems that are being created by the traffic signal infrastructure, the turn movement operations, the pavement markings, the driveways (access management issues), the road cross section, and the pedestrian facilities in the service area. The project is designed to allow the corridor maintain the level of service through the design year.

For roadway betterment projects, provide the existing and proposed Level of Service (LOS) of the facility using the methodology outlined within AASHTO'S "Geometric Design of Highways and Streets" and the 1985 Highway Capacity Manual.

Existing LOS _____ Proposed LOS _____

If the proposed design year LOS is not "C" or better, explain why LOS "C" cannot be achieved.

10) If SCIP/LTIP funds were granted, when would the construction contract be awarded?

If SCIP/LTIP funds are awarded, how soon after receiving the Project Agreement from OPWC (tentatively set for July 1 of the year following the deadline for applications) would the project be under contract? The Support Staff will review status reports of previous projects to help judge the accuracy of a jurisdiction's anticipated project schedule.

Number of months 5

a.) Are preliminary plans or engineering completed? Yes X No _____ N/A _____

b.) Are detailed construction plans completed? Yes _____ No X N/A _____

c.) Are all utility coordination's completed? Yes _____ No X N/A _____

d.) Are all right-of-way and easements acquired (if applicable)? Yes _____ No X N/A _____

If no, how many parcels needed for project? 4 Of these, how many are: Takes _____

Temporary _____

Permanent 4

For any parcels not yet acquired, explain the status of the ROW acquisition process for this project.
Property appraisals are underway.

e.) Give an estimate of time needed to complete any item above not yet completed. 12 Months.

11) Does the infrastructure have regional impact?

Give a brief statement concerning the regional significance of the infrastructure to be replaced, repaired, or expanded.
Spring Grove Avenue, Winton Road, Clifton Avenue and Mitchell Avenue are major arterial serving the Cincinnati communities and businesses of Northside, Winton Place, and Clifton. These streets serve as a direct connection to I-75, Clifton Area (hospitals and the university) as well as providing access for industry with heavy truck traffic. In addition, Spring Grove serves several SORTA routes. This project will rekindle commercial and residential development along this corridor. This project is in the OKI Western Transportation Study.

12) What is the overall economic health of the jurisdiction?

The District 2 Integrating Committee predetermines the jurisdiction's economic health. The economic health of a jurisdiction may periodically be adjusted when census and other budgetary data are updated.

13) Has any formal action by a federal, state, or local government agency resulted in a partial or complete ban of the usage or expansion of the usage for the involved infrastructure?

Describe what formal action has been taken which resulted in a ban of the use of or expansion of use for the involved infrastructure? Typical examples include weight limits, truck restrictions, and moratoriums or limitations on issuance of building permits, etc. The ban must have been caused by a structural or operational problem to be considered valid. Submission of a copy of the approved legislation would be helpful.
No

Will the ban be removed after the project is completed? Yes _____ No _____ N/A _____

14) What is the total number of existing daily users that will benefit as a result of the proposed project?

For roads and bridges, multiply current Average Daily Traffic (ADT) by 1.20. For inclusion of public transit, submit documentation substantiating the count. Where the facility currently has any restrictions or is partially closed, use documented traffic counts prior to the restriction. For storm sewers, sanitary sewers, water lines, and other related facilities, multiply the number of households in the service area by 4. User information must be documented and certified by a professional engineer or the jurisdictions' C.E.O.

Traffic: ADT 33,707 X 1.20 = 40,448 Users

Water/Sewer: Homes _____ X 4.00 = _____ Users

15) Has the jurisdiction enacted the optional $5 license plate fee, an infrastructure levy, a user fee, or dedicated tax for the pertinent infrastructure?

The applying jurisdiction shall list what type of fees, levies or taxes they have dedicated toward the type of infrastructure being applied for. (Check all that apply)

Optional $5.00 License Tax X

Infrastructure Levy X Specify type Dedicated portion of City earnings tax.

Facility Users Fee _____ Specify type _____

Dedicated Tax _____ Specify type _____

Other Fee, Levy or Tax _____ Specify type _____

BRIDGE REVIEW

CLIFTON AVENUE BRIDGE
AT THE MILL CREEK

CINCINNATI, OHIO

Prepared for: **City of Cincinnati**
Thelen Project No.: **060953NE**

THELEN ASSOCIATES, INC.
Geotechnical • Testing Engineers

○ 1398 Cox Avenue / Erlanger, Kentucky 41018-1002 / 859-746-9400 / Fax 859-746-9408
☑ 2140 Waycross Road / Cincinnati, Ohio 45240-2719 / 513-825-4350 / Fax 513-825-4756
www.thelenassoc.com

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December 8, 2006

City of Cincinnati
Department of Transportation & Engineering
801 Plum Street
City Hall, Room 450
Cincinnati, Ohio 45202

Attention: Mr. Reiner Reising, P.E.

Re: Bridge Review
Clifton Avenue at the Mill Creek
Cincinnati, Ohio

Ladies and Gentlemen:

Contained herein are our results of our review of the Clifton Avenue Bridge over the Mill Creek which is located just south of the intersection of Clifton Avenue and Kenard Avenue in Cincinnati, Ohio. This work was requested and authorized by Mr. Reiner Reising, P.E., City of Cincinnati, Department of Transportation & Engineering, during a telephone conversation with our Mr. Kevin D. Weaver, P.E., on September 15, 2006.

Our scope of work was to review the grout encased bridge girders to determine if there has been a significant loss in thickness due to corrosion. This review was prompted by the pronounced rust staining which is visible on the exterior of the grout encased bridge girders. Our review focused on two (2) locations where pronounced rust staining is evident. The staining appears to be emanating from the top flange of the girder. The grout encasement was removed at these locations from around the area of the top flange of the girder with a hammer drill. Once the grout has been removed from the top, bottom and end of an approximate one-inch section of the top flange of the bridge girder, the flange will be measured to determine its thickness and compared to its design thickness to determine the amount of flange thickness lost due to corrosion, if any.

To determine the design thickness of the structural members and for the purposes of locating the specific locations which were reviewed, we were provided with a copy of the original project drawings for the Clifton Av. Bridge Over Mill Creek Girders, dated December, 1933, prepared by the City of Cincinnati Department of Public Works Division of Highways. These plans were scanned and provided to us as a PDF drawing by Mr. Reising. The project plans indicate that a ½-inch thick cover plate is located on the top flange of the 15 inch, I-beam girder at 42.9 lb/ft. Since the cover plate extends beyond the flange, our review was to determine current thickness of the cover plate. A copy of the original plan is enclosed with this report.

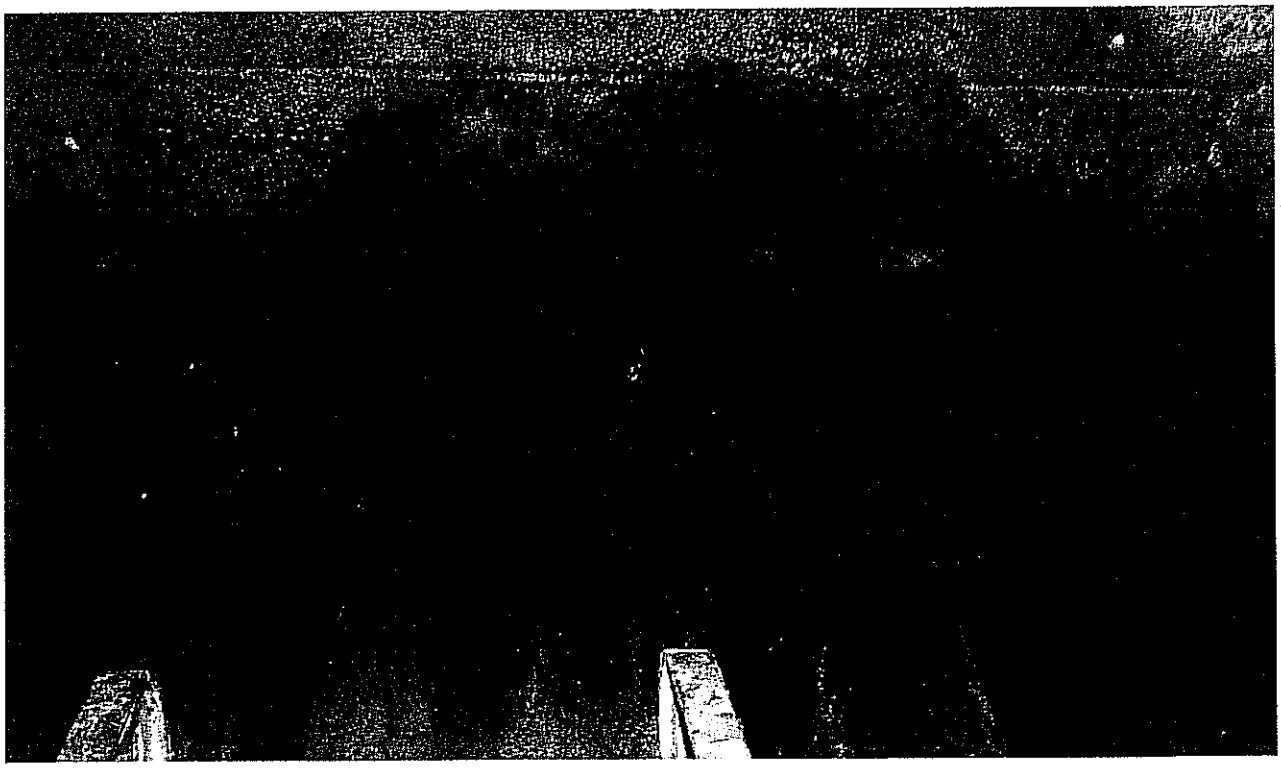
Our review of the bridge was performed on October 14 and 20, 2006. The first location reviewed is located on the inside face of the easternmost girder, G_1, approximately 20 feet north of the south abutment (See Photograph 1).

Photograph 1

With the use of a 1/2-inch diameter drill bit and a hammer drill, the grout protection was removed from an area approximately 1-inch wide centered at the top flange of the exterior girder, G_1. A 2"

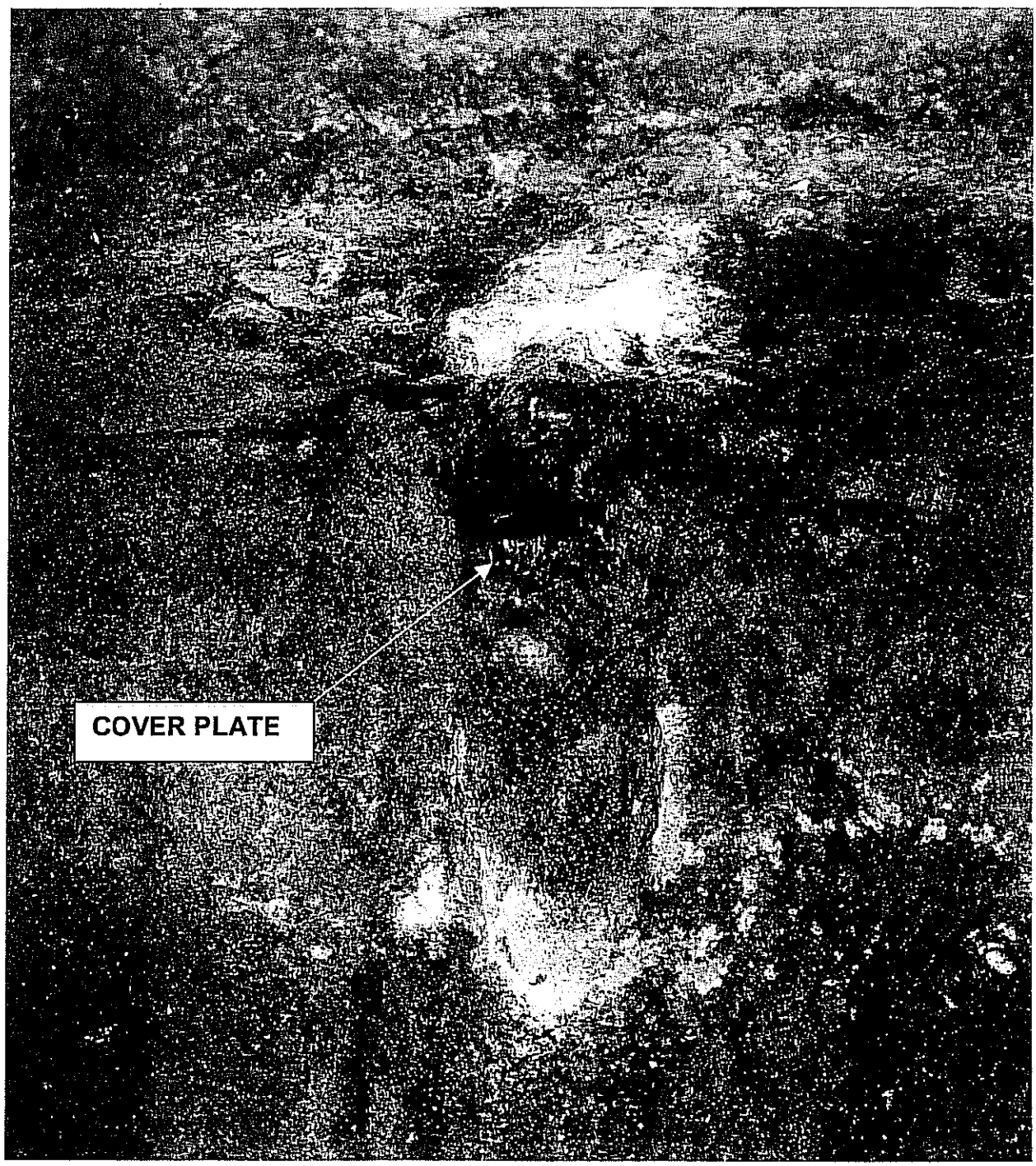
x 2", No. 14 gauge welded wire mesh is shown to completely surround the girder on the project plans. While drilling above the cover plate, intact 2" x 2" No. 14 gauge welded wire mesh was not encountered. Below the cover plate, the wire mesh was found intact. It was also noted that the grout above the cover plate was significantly weaker than the grout below the cover plate. There was significant cracking within the weaker grout, in which the rust staining was concentrated. The exterior staining in the surface of the grout was transmitted through these internal cracks to the surface of the grout. The cracks were transmitting water as drilling was continuing above the bridge girder. The cover plate of the bridge girder itself in the exposed area has significant corrosion along the top of the steel. It was noted that the underside of the cover plate had no signs of corrosion. With the use of a digital caliper, the cover plate thickness was measured to be .392 inches. Based on the project drawings, this cover plate was originally 1/2-inch thick. The current measurement indicates that the cover plate has lost 21.6 percent of its thickness due to corrosion.

The second location reviewed was also on the inside face of the easternmost girder, G_1, located approximately 15 feet south of the center pier (See Photograph 2). As noted at the previous location, the grout protection appeared to be notably weaker above the cover plate of the girder compared with below the cover plate.



Photograph 2

It was also noted that intact 2" x 2" No. 14 gauge welded wire mesh was only encountered below the cover plate. Above the cover plate, only heavy rust staining was encountered where the wire mesh was originally. It was also noted in this area that interior cracks above the bridge girder were transmitting water. Unlike the previous area reviewed, the exposed cover plate was measured to be .503 inches and did not have any signs of corrosion along its top or bottom (see Photograph 3).



Photograph 3

The rust staining begins along longitudinal cracks within the grout protection which are primarily located above the cover plate and top flange of the bridge girder. At the second area reviewed, it is our opinion that the majority of the rust staining on the exterior of the bridge girder is due to corrosion of the bridge deck steel and wire mesh above the bridge girder. The welded wire mesh reinforcing which was installed to maintain the grout protection over the flange has corroded and is no longer confining the grout, thereby exposing the flanges corrosion. The grout is no longer confined or restricted to expansion during freeze/thaw cycles, and interior cracks have begun to propagate and become more prevalent. This has allowed for more water to be transmitted through what was originally designed to be intact grout. As encountered in the first area reviewed, this propagation of cracking has extended to the of the girder and has begun corroding the steel from within the grout encasement. This condition will only accelerate with more freeze/thaw cycles, which will allow the internal cracks to increase and larger volumes of water to be transmitted. Since the bridge girders are encased in grout, we were unable to determine if the areas which we reviewed are the worst case or if they are typical for the entire bridge. The rust staining alone indicates that there has been significant corrosion of the encased steel within the grout down to at least the top of the girder flange or cover plate.

It should be noted that in the two areas which were reviewed, the cover plate was left exposed. These areas should be cleaned and packed with nonshrink grout after any interested parties have reviewed them.

We appreciate the opportunity to provide this bridge review for the City of Cincinnati, Department of Transportation & Engineering. Should you have any questions concerning the information, our procedures or the results of our review provided in this report, please do not hesitate to contact us.

Respectfully submitted,
THELEN ASSOCIATES, INC.

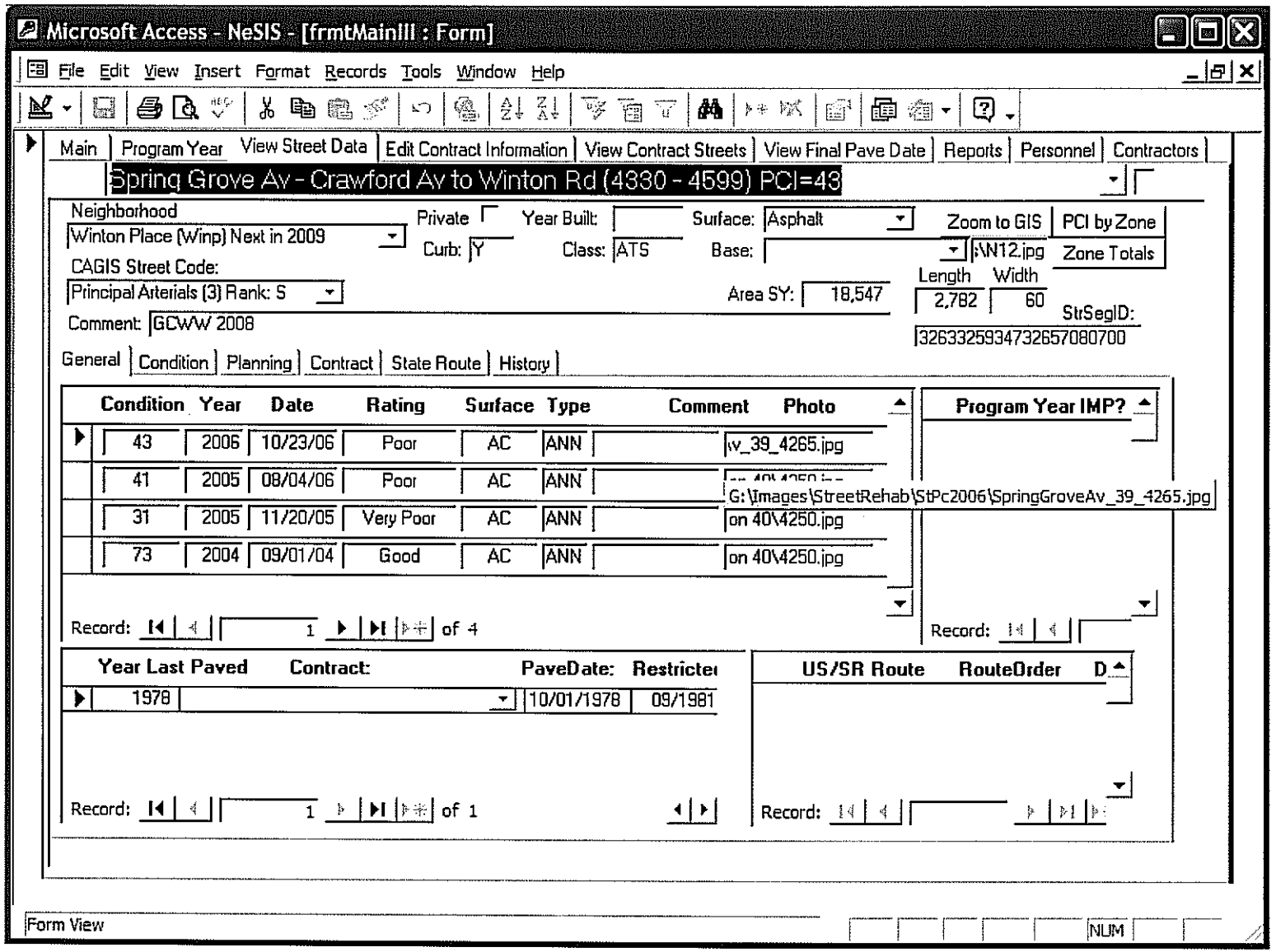
K. D. Weaver 12-8-06

Kevin D. Weaver, P.E
Staff/Materials Engineer

KDW:bkm
060953NE

Enclosure: Clifton Av. Bridge over Mill Creek Girders, December, 1933

Copies submitted: 2 - Client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Contractors
Spring Grove Av - Crawford Av to Winton Rd (4330 - 4599) PCI=43
Neighborhood
Winton Place (Winp) Next in 2009
Private
Year Built:
Surface:
Asphalt
Zoom to GIS
PCI by Zone
Curb:
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Class:
ATS
Base:
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Zone Totals
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Condition
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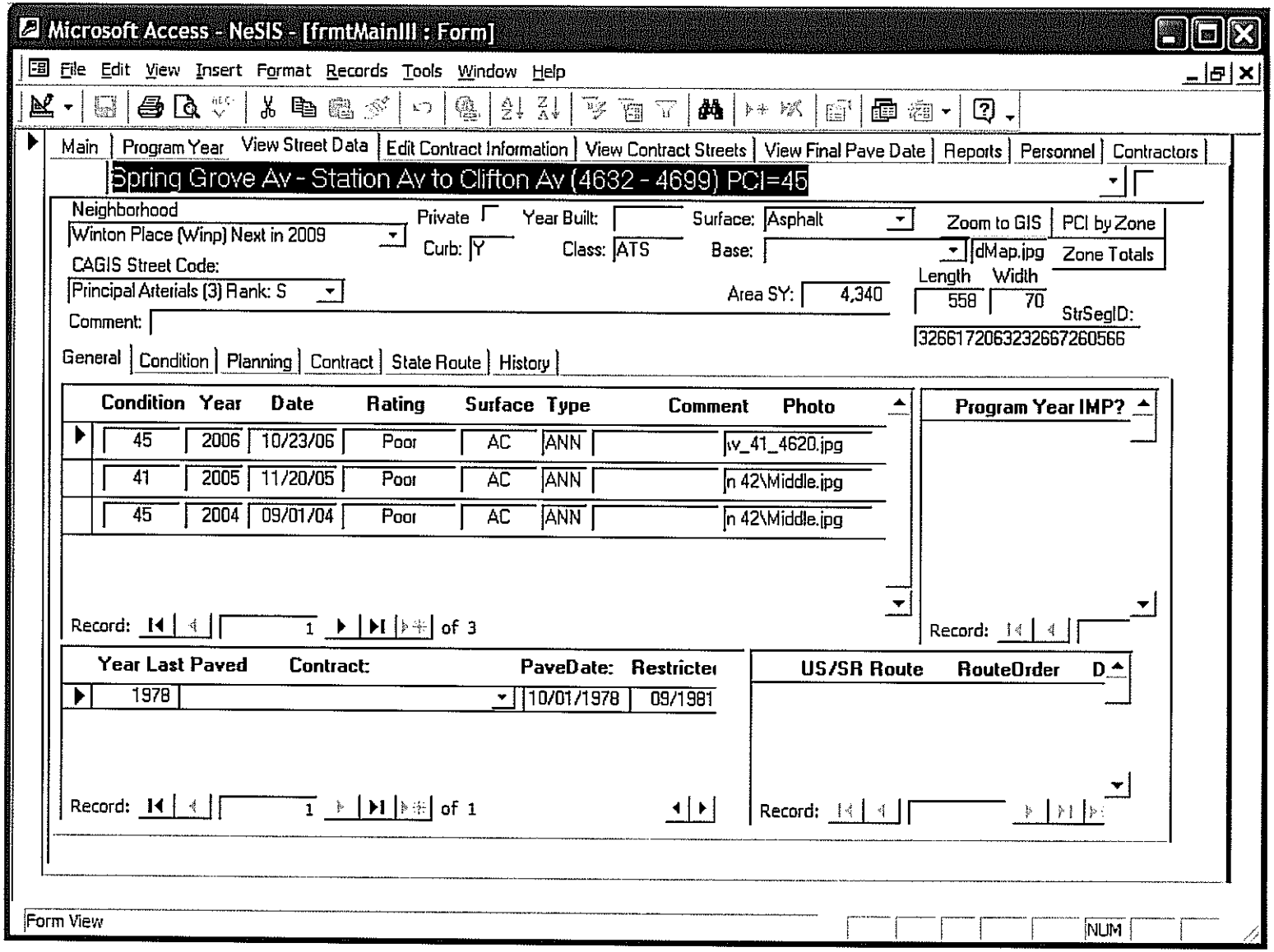
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Spring Grove Av - Station Av to Clifton Av (4632 - 4699) PCI=45
Neighborhood
Winton Place (Winp) Next in 2009
Private
Year Built:
Surface: Asphalt
Zoom to GIS
PCI by Zone
Curb: Y
Class: ATS
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CAGIS Street Code:
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Width 70
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Comment:
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41 2005 11/20/05 Poor AC ANN n 42\Middle.jpg
45 2004 09/01/04 Poor AC ANN n 42\Middle.jpg
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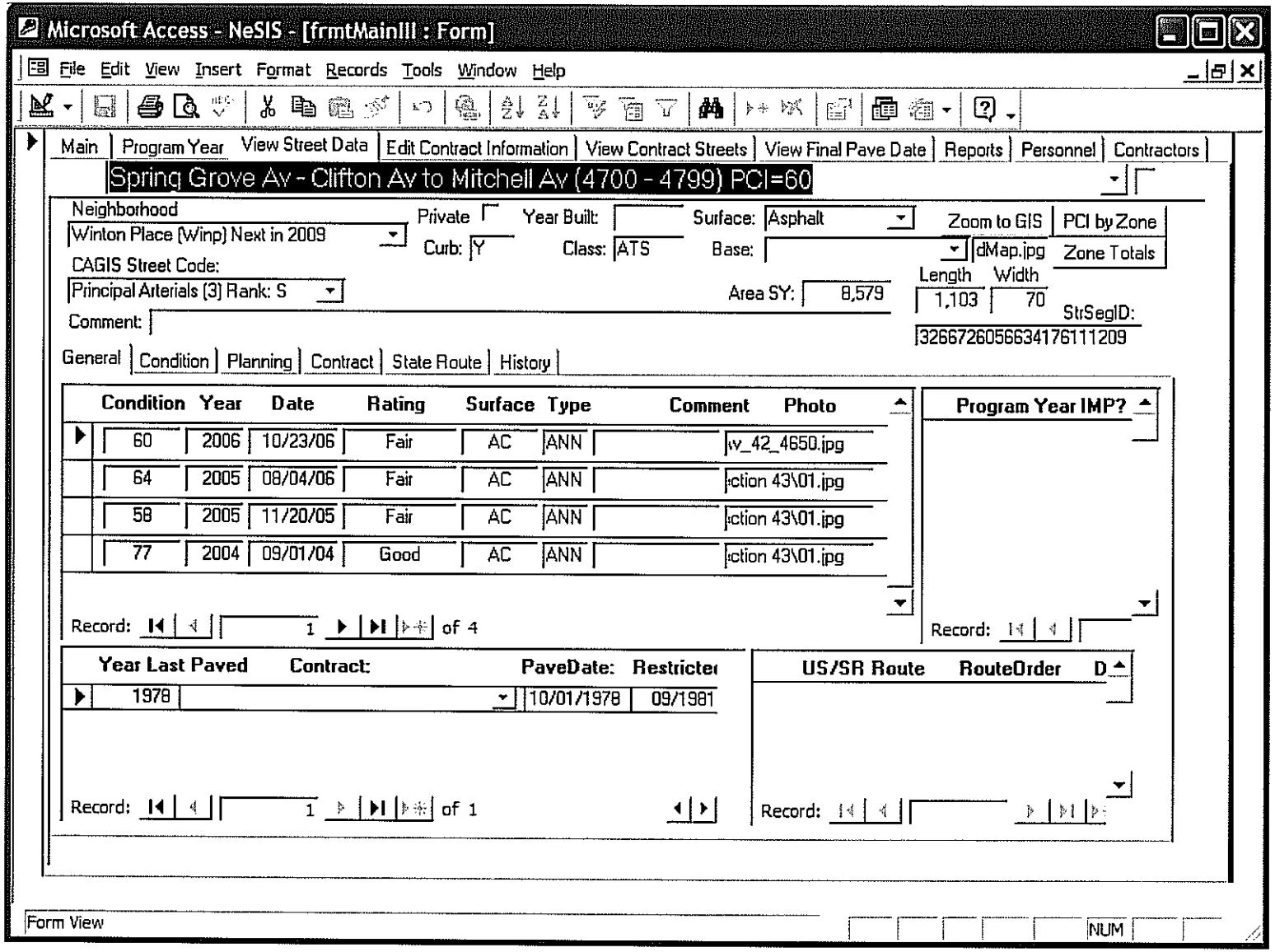
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View Street Data
Edit Contract Information
View Contract Streets
View Final Pave Date
Reports
Personnel
Contractors
Spring Grove Av - Clifton Av to Mitchell Av (4700 - 4799) PCI=60
Neighborhood
Winton Place (Winp) Next in 2009
Private
Year Built:
Surface:
Asphalt
Zoom to GIS
PCI by Zone
Curb:
Y
Class:
ATS
Base:
dMap.jpg
Zone Totals
CAGIS Street Code:
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Width
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Comment:
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State Route
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SR05016077	CLOSED	03/23/2005	PUB SERV	Special Collections	Metal Furniture, Spec Collectn
SR06000025	CLOSED	01/02/2006	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR06000026	CLOSED	01/02/2006	PUB SERV	STRUCTURES	Guardrail, repair
SR06069427	CLOSED	05/10/2006	PUB SERV	Special Collections	Metal Furniture, Spec Collectn
SR06085628	CLOS-NO	07/16/2006	HEALTH	HEALTH-LITTER	Notice, posting on a pole
SR06092454	CLOS-NO	08/12/2006	HEALTH	HEALTH-LITTER	Notice, posting on a pole
SR06097074	CLOS-NO	09/04/2006	HEALTH	HEALTH-LITTER	Notice, posting on a pole
SR07039199	CLOSED	05/17/2007	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR07041624	CLOSED	05/29/2007	PUB SERV	GREENSPACE	Tall grass/weeds, PS property
SR07041625	NEW	05/29/2007	HEALTH	HEALTH-LITTER	Sidewalk, bushes encumbering
SR07050658	CLOSED	07/03/2007	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs

SR05022980	CLOSED	04/26/2005	HEALTH	HEALTH-LITTER	Mud, tracking of mud
SR05022990	CLOSED	04/26/2005	HEALTH	HEALTH-LITTER	Mud, tracking of mud
SR05046807	CLOSED	08/15/2005	PUB SERV	GRAFFITI	Graffiti, removal
SR05047720	CLOSED	08/18/2005	DOTE	DT-T-TRFFCPRTNS	Sign, new/change
SR05049960	CLOSED	08/30/2005	DOTE	DT-STRTRHBLTTNPRGRM	Street, repair/repaved
SR05056339	CLOSED	10/04/2005	PUB SERV	GRAFFITI	Graffiti, removal
SR05062755	CLOSED	11/13/2005	PUB SERV	EMERGENCY SERVICE	Tree, after hrs no storm
SR05062756	CLOSED	11/13/2005	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR05064572	CLOSED	11/25/2005	PUB SERV	GRAFFITI	Graffiti, removal
SR05067964	CLOSED	12/15/2005	PUB SERV	STREET CLEANING	Litter, ROW Large Items
SR06012248	CLOSED	02/18/2006	PUB SERV	WINTER OPERATIONS	Slippery streets, request
SR06101603	CLOSED	09/25/2006	DOTE	DOTE-TE-ELECTRICAL DESIGN	Light, new/change
SR06111736	CLOSED	11/15/2006	PUB SERV	TRAFFIC AIDS	Barricade, setup/remve
SR06112331	CLOSED	11/20/2006	PARKS	URBAN FORESTRY	Tree, reg. hrs or during storm
SR07004175	CLOSED	01/23/2007	PUB SERV	NIP	Street sweeping
SR07005308	CLOSED	01/29/2007	PUB SERV	UTILITIES	Duke energy

SR05001605	CLOSED	01/08/2005	PUB SERV	ASPHALT	Pothole, repair
SR05003040	CLOSED	01/13/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05003459	CLOSED	01/14/2005	PUB SERV	ASPHALT	Pothole, repair
SR05013173	CLOSED	03/08/2005	PUB SERV	STREET CLEANING	Street cleaning, 1st
SR05016045	CLOSED	03/23/2005	MSD	MSD DEFAULT	Default, msd
SR05016106	CLOSED	03/23/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05016124	CLOSED	03/23/2005	PUB SERV	PS-DEFAULT	Default, public svcs trod
SR05018549	CLOSED	04/05/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05019484	CLOSED	04/09/2005	PUB SERV	NIP	Street cleaning, sweeping
SR05024495	CLOSED	05/03/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05035641	CLOSED	06/21/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05035652	CLOSED	06/21/2005	PUB SERV	ASPHALT	Pothole, repair
SR05037207	CLOSED	06/27/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05040167	CLOSED	07/12/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05042013	CLOSED	07/20/2005	PUB SERV	EMERGENCY SERVICE	Street cleaning, row 2nd haz
SR05044357	CLOSED	08/02/2005	PUB SERV	STREET CLEANING	Litter, ROW No Hazard
SR05044477	CLOSED	08/02/2005	PUB SERV	TRAFFIC AIDS	Sign, down reg hrs
SR05044483	CLOSED	08/02/2005	PUB SERV	PS- PROP MNTNCE DEPT PROP	Weeds, alley/row/steps
SR05044586	CLOSED	08/02/2005	PUB SERV	EMERGENCY SERVICE	Street cleaning, row 2nd haz
SR05046166	CLOSED	08/10/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05047945	CLOSED	08/19/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05049423	CLOSED	08/26/2005	DOTE	DOTE-TE-ELECTRICAL DESIGN	Signal, EDS new traffic
SR05057456	CLOSED	10/10/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05068701	CLOSED	12/21/2005	PUB SERV	ASPHALT	Pothole, repair
SR05068923	CLOSED	12/22/2005	PUB SERV	ASPHALT	Pothole, repair
SR06015663	CLOSED	03/03/2006	PUB SERV	ASPHALT	Pothole, repair
SR06017771	CLOSED	03/11/2006	PUB SERV	EMERGENCY SERVICE	Pothole, repair after hours
SR06063991	CLOSED	04/19/2006	PUB SERV	ASPHALT	Pothole, repair
SR06067520	CLOSED	05/03/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06067663	CLOSED	05/04/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Light, repair
SR06071464	CLOSED	05/18/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06075011	CLOSED	06/02/2006	PUB SERV	STREET CLEANING	Spill, non toxic 1st shift
SR06082883	CLOSED	07/03/2006	PUB SERV	STREET CLEANING	Street cleaning
SR06091038	CLOSED	08/07/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06099085	CLOSED	09/12/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06107073	CLOSED	10/20/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06107414	CLOSED	10/23/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06108360	CLOSED	10/27/2006	PUB SERV	EMERGENCY SERVICE	Water ponding
SR07001952	CLOSED	01/11/2007	PUB SERV	STREET CLEANING	Street cleaning
SR07008591	CLOSED	02/12/2007	PUB SERV	WINTER OPERATIONS	Slippery streets, request
SR07009259	CLOSED	02/13/2007	PARKS	URBAN FORESTRY	Tree, reg. hrs or during storm
SR07010750	CLOSED	02/16/2007	PUB SERV	ASPHALT	Pothole, repair
SR07011845	CLOSED	02/21/2007	PUB SERV	ASPHALT	Pothole, repair
SR07025562	CLOSED	03/28/2007	PUB SERV	EMERGENCY SERVICE	Water ponding
SR07029373	CLOS-NO	04/13/2007	HEALTH	HEALTH-LITTER	Sidewalk, bushes encumbering
SR07036146	CLOSED	05/08/2007	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR07039986	CLOSED	05/22/2007	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair

SR07040678	CLOSED	05/23/2007	PUB SERV	NIP	Street sweeping
SR07040970	CLOSED	05/24/2007	PUB SERV	ASPHALT	Sunken area, repair
SR07041722	CLOSED	05/29/2007	PUB SERV	ASPHALT	Sunken area, repair
SR07044674	CLOSED	06/08/2007	PUB SERV	GREENSPACE	Tall grass/weeds, PS property
SR07045756	CLOSED	06/13/2007	PARKS	URBAN FORESTRY	Tree, reg. hrs or during storm
SR07046701	CLOS-NO	06/15/2007	HEALTH	HEALTH-LITTER	Sidewalk, bushes encumbering
SR07053509	CLOSED	07/15/2007	PUB SERV	STREET CLEANING	Street cleaning

SR05000466	CLOSED	01/04/2005	PUB SERV	ASPHALT	Pothole, repair
SR05000508	CLOSED	01/05/2005	PUB SERV	ASPHALT	Pothole, repair
SR05000785	CLOSED	01/05/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05001016	CLOSED	01/06/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05001158	CLOSED	01/06/2005	PUB SERV	ASPHALT	Pothole, repair
SR05002202	CLOSED	01/11/2005	PUB SERV	ASPHALT	Pothole, repair
SR05003226	CLOSED	01/14/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05004548	CLOSED	01/20/2005	PUB SERV	WINTER OPERATIONS	Slippery streets, request
SR05004586	CLOSED	01/21/2005	PUB SERV	NOD ROW MAINTENANCE	Dead animal, 3rd shift public
SR05004888	CLOSED	01/21/2005	PUB SERV	NOD ROW MAINTENANCE	Dead animal, 2nd shift public
SR05005336	CLOSED	01/24/2005	PUB SERV	STREET CLEANING	Street cleaning, 1st haz
SR05008052	CLOSED	02/08/2005	PUB SERV	STREET CLEANING	Spill, non toxic 1st shift
SR05012042	CLOSED	03/02/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05012786	CLOSED	03/07/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05012850	CLOSED	03/07/2005	PUB SERV	ASPHALT	Pothole, repair
SR05013907	CLOSED	03/12/2005	PUB SERV	TRAFFIC AIDS	Sign, down after hrs
SR05014181	CLOSED	03/14/2005	PUB SERV	ASPHALT	Pothole, repair
SR05017299	CLOSED	03/29/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05017771	CLOSED	03/31/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05018125	CLOSED	04/02/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05018152	CLOSED	04/03/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05018206	CLOSED	04/04/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05018226	CLOSED	04/04/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05018252	CLOSED	04/04/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05018463	CLOSED	04/05/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05018537	CLOSED	04/05/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05018773	CLOSED	04/06/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05019517	CLOSED	04/10/2005	PUB SERV	ASPHALT	Pothole, repair
SR05020403	CLOSED	04/13/2005	PUB SERV	EMERGENCY SERVICE	Spill, non toxic after hours
SR05020887	CLOSED	04/16/2005	PUB SERV	STREET CLEANING	Street cleaning, 1st haz
SR05020974	CLOSED	04/18/2005	DOTE	DOTE-TE-ELECTRICAL DESIGN	Signal, EDS veh progrs/sig tim
SR05022981	CLOSED	04/26/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05024448	CLOSED	05/03/2005	PUB SERV	ASPHALT	Service compliment, trod
SR05025184	CLOSED	05/05/2005	PUB SERV	ASPHALT	Pothole, repair
SR05027257	CLOSED	05/14/2005	PUB SERV	FACILITIES MGMT	Default, Facilities Management
SR05031251	CLOSED	06/01/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05032169	CLOSED	06/06/2005	PUB SERV	NOD ROW MAINTENANCE	Litter, heavy Hazard Reg Hrs
SR05032581	CLOSED	06/08/2005	PUB SERV	STREET CLEANING	Corner can, overflowing
SR05036873	CLOSED	06/27/2005	PUB SERV	PS-DEFAULT	Default, public svcs nod
SR05038028	CLOSED	06/30/2005	PUB SERV	EMERGENCY SERVICE	Tree, after hrs no storm
SR05041153	CLOSED	07/16/2005	DOTE	DOTE-PERMITS	Utility repairs, DOTE general
SR05044480	CLOSED	08/02/2005	PUB SERV	TRAFFIC AIDS	Sign, down reg hrs
SR05048602	CLOSED	08/23/2005	DOTE	DOTE-TE-ELECTRICAL DESIGN	Signal, veh progess/sig timing
SR05051449	CLOSED	09/07/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05051453	CLOSED	09/07/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05054752	CLOSED	09/25/2005	PUB SERV	STREET CLEANING	Spill, non toxic 1st shift
SR05055115	CLOSED	09/27/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair

SR05055311	CLOSED	09/28/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05060823	CLOSED	11/01/2005	PUB SERV	STREET CLEANING	Dead animal, 3rd shift public
SR05066652	CLOSED	12/08/2005	PUB SERV	WINTER OPERATIONS	Slippery streets, request haz
SR05069126	CLOSED	12/27/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05069534	CLOSED	12/29/2005	PUB SERV	NIP	Street sweeping
SR06000350	CLOSED	01/04/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06000606	CLOSED	01/05/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06002323	CLOSED	01/12/2006	PUB SERV	ASPHALT	Pothole, repair
SR06004446	CLOSED	01/21/2006	PUB SERV	STREET CLEANING	Corner can, overflowing
SR06004762	CLOSED	01/23/2006	PUB SERV	ASPHALT	Street, general repair
SR06006139	CLOSED	01/26/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06006696	CLOSED	01/27/2006	PUB SERV	STREET CLEANING	Dead animal, 1st shift private
SR06009512	SECURE	02/06/2006	DOTE	DOTE-TE-ELECTRICAL DESIGN	Signal, change request traffic
SR06010619	CLOSED	02/11/2006	PUB SERV	STREET CLEANING	Street cleaning, 1st
SR06010885	CLOSED	02/13/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06011759	CLOSED	02/16/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06012544	CLOSED	02/21/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06015694	CLOSED	03/03/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06017715	CLOSED	03/10/2006	PUB SERV	ASPHALT	Pothole, repair
SR06017843	CLOSED	03/12/2006	PUB SERV	EMERGENCY SERVICE	Pothole, repair after hours
SR06017997	CLOSED	03/13/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06018560	CLOSED	03/14/2006	PUB SERV	STREET CLEANING	Corner can, overflowing
SR06033261	CLOSED	04/02/2006	PUB SERV	ASPHALT	Pothole, repair
SR06061968	CLOSED	04/13/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06063287	CLOSED	04/17/2006	PUB SERV	ASPHALT	Pothole, repair
SR06069018	CLOSED	05/08/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06070374	CLOSED	05/15/2006	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR06071450	CLOSED	05/18/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06072002	CLOSED	05/22/2006	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR06072949	CLOSED	05/24/2006	DOTE	DT-STRTRHBLTTNPRGRM	Street, repair/repaved
SR06075882	CLOSED	06/06/2006	CWW	CWW DEFAULT	Default, CWW
SR06081059	CLOSED	06/26/2006	PUB SERV	TRAFFIC AIDS	Pavement markings, faded
SR06081472	CLOSED	06/27/2006	PUB SERV	ASPHALT	Street, general repair
SR06084958	CLOSED	07/12/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06093792	CLOSED	08/18/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06098061	CLOSED	09/08/2006	PUB SERV	TRAFFIC AIDS	Sign, street sign faded
SR06108929	CLOSED	10/31/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06109641	CLOSED	11/05/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06111390	CLOSED	11/14/2006	PUB SERV	STREET CLEANING	Street cleaning
SR06112151	CLOSED	11/17/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06112317	CLOSED	11/19/2006	PUB SERV	STREET CLEANING	Dead animal, 2nd shift
SR06115728	CLOSED	12/07/2006	PUB SERV	EMERGENCY SERVICE	Tree, after hrs no storm
SR06116138	CLOSED	12/10/2006	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR07001828	CLOSED	01/10/2007	PUB SERV	STREET CLEANING	Street cleaning
SR07003700	CLOSED	01/21/2007	PUB SERV	WINTER OPERATIONS	Slippery streets, request
SR07007094	CLOSED	02/06/2007	PUB SERV	WINTER OPERATIONS	Slippery streets, request
SR07011923	CLOSED	02/21/2007	PUB SERV	ASPHALT	Pothole, repair
SR07013020	CLOSED	02/26/2007	PUB SERV	ASPHALT	Pothole, repair

SR07016278	CLOSED	03/07/2007	PUB SERV	STREET CLEANING	Street cleaning
SR07020546	CLOSED	03/19/2007	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR07020805	CLOSED	03/20/2007	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR07023839	CLOSED	03/23/2007	PUB SERV	ASPHALT	Pothole, repair
SR07024187	CLOSED	03/26/2007	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR07024499	CLOSED	03/26/2007	PUB SERV	STREET CLEANING	Street cleaning
SR07028493	CLOSED	04/10/2007	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR07036143	CLOSED	05/08/2007	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR07056954	CLOSED	07/26/2007	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR07062297	CLOSED	08/17/2007	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair

SR05013951	CLOSED	03/14/2005	PUB SERV	WINTER OPERATIONS	Slippery streets, request
SR05015029	CLOSED	03/18/2005	PUB SERV	STREET CLEANING	Street cleaning, 1st haz
SR05021370	CLOSED	04/19/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR05038093	CLOSED	06/30/2005	PUB SERV	EMERGENCY SERVICE	Inlets, ps collpsd or dmgd
SR05041215	CLOSED	07/18/2005	PUB SERV	TRAFFIC AIDS	Sign, down reg hrs
SR05045147	CLOSED	08/05/2005	PUB SERV	TRAFFIC AIDS	Sign, down reg hrs
SR05051445	CLOSED	09/07/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05053345	CLOSED	09/16/2005	PUB SERV	EMERGENCY SERVICE	Pothole, repair haz
SR05053816	CLOSED	09/20/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06001010	CLOSED	01/07/2006	PUB SERV	STREET CLEANING	Street cleaning, 1st
SR06010817	CLOSED	02/13/2006	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR06014054	CLOSED	02/26/2006	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR06017020	CLOSED	03/08/2006	PUB SERV	STREET CLEANING	Street cleaning, 1st haz
SR06059983	CLOSED	04/09/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06067365	CLOSED	05/03/2006	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR06070017	CLOSED	05/12/2006	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR06078775	CLOSED	06/16/2006	PUB SERV	NIP	Street sweeping
SR06086344	CLOSED	07/19/2006	PUB SERV	STREET CLEANING	Dead animal, 1st shift
SR06088564	CLOSED	07/28/2006	PUB SERV	EMERGENCY SERVICE	Manhole cvr/sewer lid, missing
SR06106703	CLOSED	10/19/2006	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR07000459	ABAT-OW	01/03/2007	BUILD	BUILD-EBID	Building, commercial CBHCODEC
SR07001327	CLOSED	01/08/2007	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs
SR07002457	CLOSED	01/15/2007	PUB SERV	EMERGENCY SERVICE	Pothole, repair after hours
SR07011183	CLOSED	02/20/2007	PUB SERV	ASPHALT	Pothole, repair
SR07011595	CLOSED	02/21/2007	PUB SERV	ASPHALT	Pothole, repair
SR07012197	CLOSED	02/22/2007	CWW	CWW DEFAULT	Water, leaks/breaks
SR07014920	CLOSED	03/02/2007	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR07038132	CLOSED	05/15/2007	PUB SERV	NIP	Street sweeping
SR07053216	CLOSED	07/13/2007	PUB SERV	ASPHALT	Pothole, repair
SR07053220	CLOSED	07/13/2007	PUB SERV	ASPHALT	Pothole, repair
SR07053859	CLOSED	07/16/2007	PUB SERV	ASPHALT	Pothole, repair
SR07057729	CLOSED	07/30/2007	PUB SERV	TRAFFIC AIDS	Sign, down/missing reg hrs

SR05019493	CLOSED	04/09/2005	PUB SERV	TRAFFIC AIDS	Sign, down after hrs
SR05044479	CLOSED	08/02/2005	PUB SERV	TRAFFIC AIDS	Sign, down reg hrs
SR05054111	CLOSED	09/21/2005	PUB SERV	ASPHALT	Pothole, repair
SR06019137	CLOSED	03/16/2006	MSD	SMU DEFAULT	Default, msd stormwater
SR06085323	CLOSED	07/14/2006	PUB SERV	ASPHALT	Sunken area, repair
SR06085449	CLOSED	07/14/2006	CWW	CWW DEFAULT	Default, CWW
SR07012310	CLOSED	02/23/2007	PUB SERV	EMERGENCY SERVICE	Void, repair
SR07012311	CLOSED	02/23/2007	PUB SERV	ASPHALT	Pothole, repair

SR05003387	CLOSED	01/14/2005	PUB SERV	STREET CLEANING	Spill, non toxic 1st shift
SR05049277	CLOSED	08/25/2005	PUB SERV	TRAFFIC SERVICES BUREAU	Light, repair
SR06068447	CLOSED	05/06/2006	CWW	CWW DEFAULT	Default, fleet svcs
SR06090196	CLOSED	08/03/2006	PUB SERV	TRAFFIC SERVICES BUREAU	Signal, traf/ped/school repair
SR06093586	CLOSED	08/17/2006	PUB SERV	SPECIAL COLLECTIONS	Metal Furniture, Spec Collectn
SR06098039	INPROGRS	09/07/2006	RCC	CAGIS	CAGIS, permits plus modificatn
SR06112583	CLOSED	11/21/2006	PUB SERV	STREET CLEANING	Spill, non toxic 1st shift
SR07044939	CLOSED	06/09/2007	CWW	CWW DEFAULT	Default, fleet svcs

Infrastructure Safety Data

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SPRING GROVE AVENUE

CORRIDOR IMPROVEMENT PROJECT

CINCINNATI, OHIO

PLANNING STAGE ROAD SAFETY AUDIT

DRAFT REPORT

CONTRACT DTFH61-03-D00105

TASK ORDER BMISG05B022

Prepared by:

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President and Senior Road Safety Auditor

January 2005

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1.0 INTRODUCTION

1.1 Background

The City of Cincinnati is considering a corridor improvement project along the Spring Grove Avenue corridor, between Winton Road and Clifton Avenue. Spring Grove Avenue and Winton Road are major arterial streets which serve commuters by connecting areas to the north, east, and west to I-75. Clifton Avenue is a major/minor arterial street connecting Spring Grove Road to the area of Clifton to the south and providing access to commercial developments constructed in the past five years on Kenard Avenue. The area has experienced a high number of crashes recently, putting the intersection of Spring Grove Avenue and Winton Road at the top of the High Accident Location (HAL) list, and resulting in an above average collision rate for the intersection of Spring Grove Avenue and Clifton Avenue. In addition, traffic near the intersection of Clifton Avenue and Kenard Avenue has increased to a point where widening the bridge just to the south of the intersection on Clifton Avenue is now being considered, so that an exclusive left turn lane and two through lanes can be provided on the north leg of the intersection.

Hamilton Associates and BMI -SG were retained by the Federal Highway Administration to perform a planning-stage road safety audit of the bridge widening and evaluate other potential safety improvements on Spring Grove Avenue, Winton Road, and Clifton Avenue. This report discusses the findings of the road safety audit.

1.2 Road Safety Audits

A road safety audit is a formal safety performance examination of an existing or future road or intersection by an independent audit team. Road safety audits help to promote road safety by identifying safety issues at the design and implementation stages, promoting awareness of safe design practices, integrating multimodal safety concerns, and considering human factors in the design.

1.3 FHWA Road Safety Audit Case Studies

In the summer of 2004, the FHWA commissioned a series of eight road safety audits to demonstrate the usefulness and effectiveness of audits for a variety of projects and to a variety of agencies throughout the United States. This audit of the Spring Grove Avenue corridor improvement project in Cincinnati is one of the eight audits. The results of the road safety audits will be compiled in a case studies document for use as a marketing and information tool to demonstrate the practical cost-effectiveness of road safety audits.

1.4 Reminder

The audit team has conducted this audit to the best of its professional abilities within the time available and by referring to available information. While every attempt has been made to identify significant safety issues, the design team and the project owner are reminded that responsibility for the design, construction, and performance of the project remains with the engineers of record.

1.5 Audit Scope

The audit examined Spring Grove Avenue between Winton Road and Clifton Avenue. Some observations were also conducted further east along Spring Grove Avenue towards the West Mitchell Avenue intersection. The audit also included Clifton Avenue between Spring Grove Avenue and the bridge just south of Kenard Avenue, as shown in FIGURE 1.1.

Spring Grove Avenue is an undivided arterial road with a cross section of four to six-lanes serving commercial and industrial developments. Clifton Avenue is primarily a two-lane arterial. Kenard Avenue is a collector street that intersects with Clifton Avenue and serves a major commercial development built within the past five years.

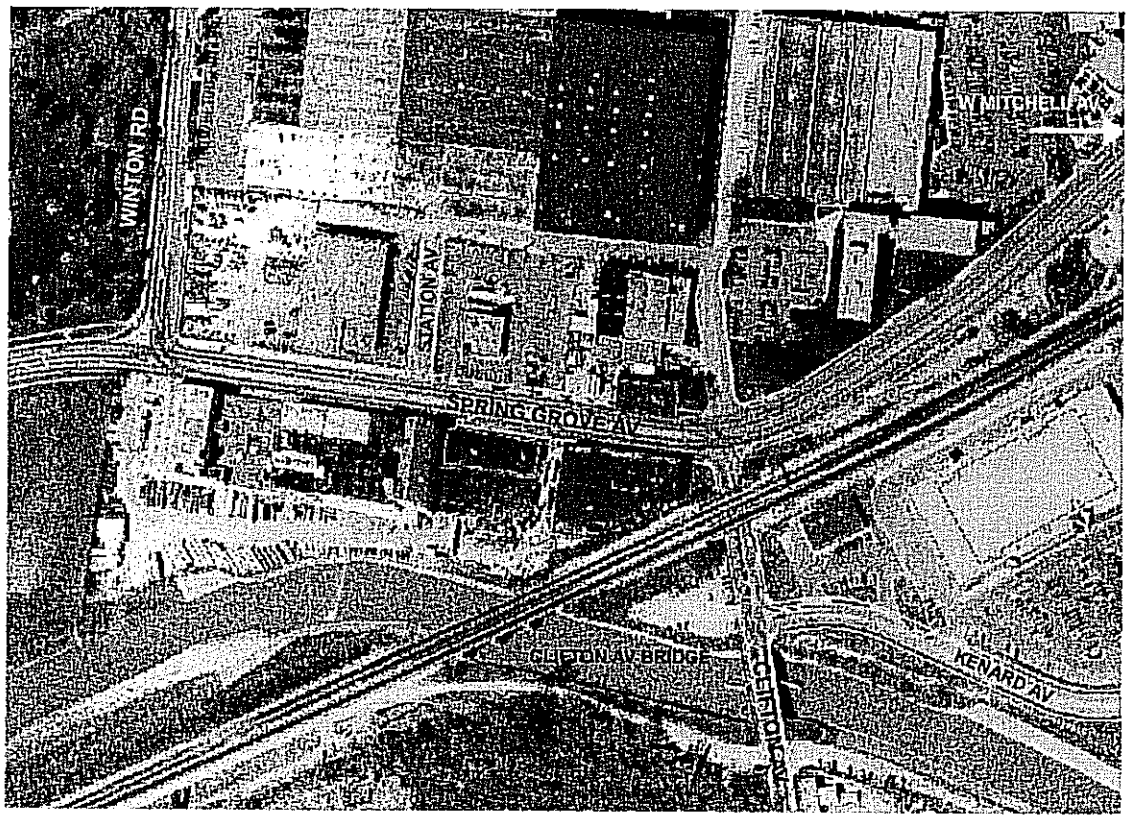

FIGURE 1.1 ROAD SAFETY AUDIT STUDY AREA

The Spring Grove Avenue corridor project is expected to encompass several upgrades. The City recognizes the need to upgrade safety and operations along Spring Grove Avenue between Winton Road and Clifton Avenue, and will be seeking improvement strategies for this purpose. The proposed upgrade also entails widening the bridge to the south of this intersection on Clifton Avenue to accommodate four 10-foot lanes and a 10-foot painted median strip. The 10-foot median strip creates space for a southbound left-turn lane at the intersection.

In addition, traffic signal improvements are planned for the intersection of Spring Grove Avenue and West Mitchell Avenue on the eastern boundary of the study area, and City staff are interested in the potential of making other improvements to Spring Grove Avenue possibly in connection with this planned upgrade.

The corridor improvements, bridge widening project, and related roadway improvements at the intersection of Clifton Avenue and Kenard Avenue were at the early planning stage at the time of the audit. Sketch plans for the proposed bridge improvements were available. There were no other plans for improvements within the study area available at the time of the audit.

1.6 Audit Team and Process

The audit team and the project material on which the audit was based are described in *Attachment 1*.

Site visits were conducted on 14-16 December 2004 to gain an understanding of the existing conditions and surroundings, as well as to identify existing safety concerns. Notes of the site visit are included in *Attachment 2*.

A road safety audit framework was applied in both the audit analysis and presentation of findings. The expected frequency and severity of crashes caused by each safety issue have been identified and rated according to the categories shown in TABLES 1.1 and 1.2. These two risk elements were then combined to obtain a risk assessment on the basis of the matrix shown in TABLE 1.3. Consequently, each safety issue is assessed on the basis of a ranking between F (highest risk and highest priority) and A (lowest risk and lowest priority). For each safety issue identified, possible mitigation measures have been suggested.

1.7 Overview of Collision History

Collision summary reports for 2001 through 2003 were provided by the City of Cincinnati. Over these three years, 229 collisions were recorded in the study area. About 14 percent of the collisions resulted in at least one non-fatal injury. The remainder of the collisions involved property damage only. No fatalities were reported during the study period. Collision type distributions are summarized in TABLE 1.4.

TABLE 1.1 FREQUENCY RATING

ESTIMATED		EXPECTED CRASH FREQUENCY (per audit item)	FREQUENCY RATING
EXPOSURE	PROBABILITY		
high	High	10 or more crashes per year	*Frequent*
medium	High		
high	Medium	1 to 9 crashes per year	*Occasional*
medium	Medium		
low	High		
high	Low	less than 1 crash per year, but more than 1 crash every 10 years	*Infrequent*
low	Medium		
medium	Low	less than 1 crash every 10 years	*Rare*
low	Low		

TABLE 1.2 SEVERITY RATING

TYPICAL CRASHES EXPECTED (per audit item)	EXPECTED CRASH SEVERITY	SEVERITY RATING
crashes involving high speeds or heavy vehicles, pedestrians, or bicycles	probable fatality or incapacitating injury	*High*
crashes involving medium to high speed; head-on, crossing, or off-road crashes	moderate to severe injury	*High Moderate*
crashes involving medium to low speeds; left-turn and right-turn crashes	minor to moderate injury	*Low Moderate*
crashes involving low to medium speeds; rear-end or sideswipe crashes	property damage only or minor injury	*Low*

TABLE 1.3 CRASH RISK ASSESSMENT

FREQUENCY RATING	SEVERITY RATING			
	Low	*Low Moderate*	*High Moderate*	*High*
Frequent	C	D	E	F
Occasional	B	C	D	E
Infrequent	A	B	C	D
Rare	A	A	B	C

Crash Risk Ratings:

A: lowest risk level
B: low risk level
C: moderate-low risk level
D: moderate-high risk level
E: high risk level
F: highest risk level

TABLE 1.4 SUMMARY OF COLLISION TYPES IN STUDY AREA

LOCATION	INJURY	RIGHT ANGLE	REAR-END	SIDE-SWIPE	FIXED OBJECT	OTHER	TOTAL*
INTERSECTION							
SPRING GROVE/WINTON	10	19	26	36	5	0	86
SPRING GROVE/CLIFTON	15	21	19	42	5	6	93
CLIFTON/KENARD	0	6	6	2	0	3	17
ROADWAY SEGMENT							
SPRING GROVE (WINTON TO CLIFTON)	8	12	11	6	3	1	33
CLIFTON (SPR. GROVE TO KENARD)	0	0	0	0	0	0	0

*Total includes sum of right angle, rear-end, side-swipe, fixed object, and other collisions.

A review of the collision types indicated the following trends:

- Sideswipe collisions were the most prevalent collision type at intersections. Side-swipe collisions accounted for over 40 percent of collisions at intersections.
- Right angle and rear-end collisions were the first and second most prevalent crash types on the roadway segments between intersections. Together, they accounted for nearly 70 percent of all crashes on roadway segments.

2.0 AUDIT FINDINGS

2.1 Safety Benefit of the Proposed Improvements

The proposed improvements at the intersection of Clifton Avenue and Kenard Avenue and the bridge to the south on Clifton Avenue are expected to reduce conflicts between southbound left turning and through vehicles and could reduce rear-end collisions. The improvement is also anticipated to improve traffic operations for the intersection.

2.2 Audit Findings

Issues dealing with specific conditions observed during the site visit and audit analysis were identified, and safety improvement measures were suggested for consideration. The suggestions may be considered by the City when the upgrade of Spring Grove Avenue between Winton Road and Clifton Avenue proceeds to more detailed planning and preliminary design. In total, six issues were identified, which range from a high risk rating to a moderate-low risk rating. The six issues and suggested mitigation measures are described in detail in *Attachment 3 (Issues and Suggestions),* and are summarized in TABLE 2.1.

2.3 Conclusion

Design features that could be considered to enhance safety within the study area have been identified by this planning-stage road safety audit, and are described in this report. The design team is invited to consider the suggestions as the planning process for the Spring Grove Avenue corridor project proceeds. To complete the audit process, the City and/or design team may prepare a short written response to the issues and options outlined in this report.

TABLE 2.1 SUMMARY OF SAFETY ISSUES AND SUGGESTIONS

SAFETY ISSUE (Number and Description)		RISK RATING	SUGGESTIONS
1	traffic signal infrastructure	D	• align traffic signal heads with approach lanes • use redundant signal displays • upgrade all signal lenses to 12" • provide advance warning signs for signals that follow horizontal curves • Use a backplate with reflective border • review placement of lane-use signs
2	turn-movement operations and geometry	D	• review need for dual turns • review concurrent dual turns • review protected turns from shared-use lanes • investigate opportunities for increasing turn radii • review operation of southbound right turn at Spring Grove Av/Winton Rd
3	pavement markings	C	• adjust stop bar locations • refresh all pavement arrows and lane markings • provide raised pavement markers
4	driveways and access management	C	• investigate opportunities to close and consolidate some of the driveways • consider eliminating left turns into and out of driveways • consider converting south leg of Spring Grove Av/Winton Rd to a right in/right out • signalize west leg of Clifton Av/Kenard Av • consider movement restrictions at Blockbuster Video and Nations Rent driveways
5	road cross section	B	• design cross-section with uniform lane widths
6	pedestrian facilities	C	• provide consistent levels of lighting and upgrade lighting at crosswalks • review warrant for upgrading crosswalk makings near Station Avenue • improve sidewalk conditions

Note: *Risk rating ranges from A (lowest risk) to F (highest risk).*

ATTACHMENT 1

ROAD SAFETY AUDIT TEAM
&
ROAD SAFETY AUDIT MATERIALS

Project: Spring Grove Avenue Corridor Improvement Project, Cincinnati, Ohio

Audit Team Members:	Sany Zein	Hamilton Associates
	Dan Nabors	BMI-SG
	Greg Long	City of Cincinnati
	John Brazina	City of Cincinnati
	Reiner Reising	City of Cincinnati
	Louisa Ward	Federal Highway Administration
	Joseph Glinski	Federal Highway Administration

Project Owner: City of Cincinnati, Ohio

Review Date: 14-16 December 2004
Review Stage: Planning Stage

Start Up Meeting: 14 December 2004
Attended by: City of Cincinnati
FHWA
BMI-SG
Hamilton Associates

Project Documents Available for the Audit:

- sketch plan for the proposed bridge widening on Clifton Avenue
- signal layout and timing plans (existing intersections)
- traffic counts (existing AM and PM peak period)
- yearly State and City collision data for part of 1997 and 2001 to 2003.

All reports and drawings were received in December 2004.

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ATTACHMENT 2

SITE VISIT NOTES

Project Name: Spring Grove Avenue Corridor Improvement Project, Cincinnati, Ohio

Site Visit Dates: 14-16 December 2004 (conditions: cold, overcast with snow flurries)

Land Use: Spring Grove Avenue is adjacent to commercial and industrial land uses and runs parallel to Mill Creek, freight railroad tracks, and I-75, all of which are located to the south. Developments on Kenard Avenue are primarily commercial in nature. Clifton Avenue connects Spring Grove Avenue to the Clifton area to the south (including the University of Cincinnati) via a bridge that spans Mill Creek just south of Kenard Avenue.

Road User Characteristics: Spring Grove Avenue serves commuter, industrial, and other local traffic. During site visits in mid-December, traffic volumes were light during non-peak periods, and moderate during commuter peak periods. City staff reported that traffic volumes are typically higher when the University of Cincinnati is in session. The audit team will arrange for follow-up on-site observations. A substantial proportion of truck traffic was observed, most of which appeared to be associated with construction and hauling activities. Only a few pedestrians and cyclists were observed within the study area. In addition, although several metro bus routes pass through the study area, there were few boardings and alightings observed.

Road and Roadside Physical Characteristics: Spring Grove Avenue is an undivided arterial with two through lanes in each direction. Turning lanes are provided at signalized intersections which increase the cross section to six lanes for much of the roadway within the study area. There are two horizontal curves on Spring Grove Avenue: one on the western approach to the intersection with Winton Road and one on the eastern approach to Clifton Avenue. There are also double-left and double-right turn lanes at both of these intersections.

There are pedestrian crosswalks and signals at all the major intersections within the study area: Spring Grove / Winton; Spring Grove / Clifton; and Clifton / Kennard. However, crosswalks are marked across only selected legs at each of the signalized intersections, generally to avoid interference with dual turn movements. A pedestrian crossing with a standard pavement marking and an overhead sign is provided across Spring Grove Avenue near the intersection with Station Avenue, which is between Winton Road and Clifton Avenue. Sidewalks are provided on both sides of the street with the sidewalk on the south side of Spring Grove Avenue coming up to the curb and gutter.

Within the study area the alignment is relatively flat; however, Clifton Avenue south of the bridge features significant changes in vertical and horizontal alignments, resulting in challenging horizontal and vertical curves through a predominantly residential area.

Adjacent Network and Connectivity: Spring Grove Avenue is a major east/west arterial that serves as a primary route to/from I-75. Connecting roadways are mostly arterial roads such as Winton Road and Clifton Avenue. Access to industrial and commercial developments on Spring Grove Road are fairly dense. Kenard Avenue is a collector road that provides access to commercial developments.

Other Observations: The posted speeds on Spring Grove Avenue, Winton Road, and Clifton Avenue are 40, 35, and 30 miles per hour, respectively. Informal "floating car" surveys indicated that operating speeds on Spring Grove Avenue were 40 to 45 miles per hour. The horizontal curves on Spring Grove Avenue limit the sight distance to the intersections along the roadway.

ATTACHMENT 3

ISSUES AND SUGGESTIONS

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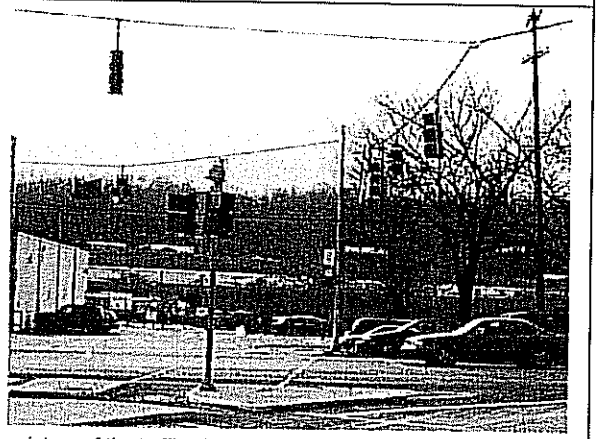
Spring Grove Avenue Corridor Improvement Project
Issue 1: Traffic Signal Infrastructure

Safety Issue: Signal displays should be visible and conspicuous at all times.

Safety Issue Description: Signal displays observed in the study area raised the following concerns:

Signal Head Placement: Traffic signals are mounted on span wires at all signalized intersections within the study area. In almost all cases, especially when the intersection is after a horizontal curve, signal displays do not appear to be lined up with the appropriate lane *(right)*. This condition increases driver confusion as to which lane is the intended travel lane and increases the potential for rear-end and side-swipe collisions.

traffic signals on eastbound Spring Grove Avenue do not line up with appropriate lanes



picture of the traffic signal on southbound Winton Rd showing the two right turn green arrows displayed: one from the right turn lane and the other from the shared through/left turn lane

Signal Head Redundancy: Signal head failure, damage, or obstruction (if a driver is following a tall vehicle, for example) may result in unintentional violation of the red light.	 *picture of the traffic signal on eastbound Spring Grove Av showing the right turn green arrow displayed – there is no redundancy for this signal*
Signal Lens Size: Some traffic signal lenses are currently 8" only. This lens size is more difficult for drivers to see, especially for east- and west-facing traffic signals, which are difficult to see with the rising and setting of the sun.	
Lane Use Designation Sign Placements: Lane-use signs are mounted on the near-side span wire, in front of the corresponding traffic signal. This may create visual clutter in front of the traffic signal making it difficult to see for approaching vehicles.	 *signal display at Spring Grove Av and Winton Rd, showing the lane use signs in front of the traffic signal display*

Expected Crash Types: angle, rear-end, and sideswipe collisions

Expected Frequency: frequent

Expected Severity: low - moderate

Risk Rating: **D** (Moderate – High Risk Level)

Suggestions

An upgrade of signal displays in the study area can be included in any future capacity and safety upgrades along the Spring Grove corridor, including the planned signal upgrade at the intersection of Spring Grove Avenue and West Mitchell Avenue. The following improvements can be considered at all intersections when redesigning the signal displays:

Align traffic signal heads with approach lanes. This measure will assist drivers in identifying their intended lane of travel more easily and reduce rear-end and side-swipe collisions.

Use redundant signal displays. A redundant signal display, particularly for drivers turning left, reduces the risk that drivers unintentionally violate the red light when the main signal display is obstructed or fails. Redundancy may be achieved through the use of a double red display or a post-mounted (left-side or right-side) signal head. The City may also consider providing a signal head over each approach lane.

Upgrade all traffic signal lenses to 12". Twelve-inch lenses may be used to improve visibility, especially for east- and west-facing traffic signals, which are difficult to see with the rising and setting of the sun.

Provide advance warning signs for traffic signals that follow horizontal curves. Advance warning signs alert drivers to unexpected or potentially confusing conditions that may not be immediately apparent. It is suggested that advance warning signs that alert drivers to the traffic signal immediately following the horizontal curve be placed on Spring Grove Avenue before the intersection with Winton Road in the eastbound direction and placed before the intersection with Clifton Avenue in the westbound direction. Refer to Chapter 2C of the MUTCD for guidance on placing advance warning signs.

Use a backplate with reflective border to enhance the conspicuousness of the signal head. The reflective border renders the signal more conspicuous under both daytime and night-time conditions. By outlining the perimeter of the backplate, the reflective tape also enables drivers to more easily distinguish the relative position of the lighted lens against a dark or sometimes cluttered background.

Review placement of lane-use signs. As indicated by City staff lane-use signs are placed on the near-side span wire in front of the corresponding signals so that the signs are not obstructed by trucks, which comprise a significant proportion of the traffic. The audit team felt that the obstruction of the traffic signal display was a greater concern and suggests the City review the current policy for the placement of lane-use signs. In general, consideration can be given for placing the lane-use signs earlier on the approach to the intersection, to provide drivers with more time to select the appropriate lane, and to reduce the likelihood of interference with the signal display. Additional options include the placement of lane-use signs on the side of the roadway in advance of the intersection. Refer to Chapter 2B of the MUTCD for guidance on placing lane-use signs.

Spring Grove Avenue Corridor Improvement Project
Issue 2: Turn Movement Operations and Geometry

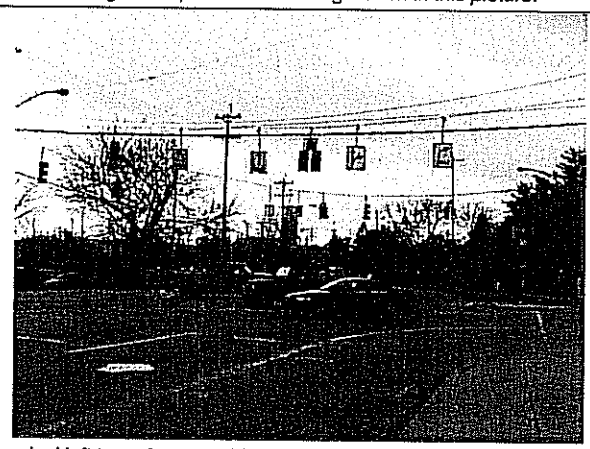
Safety Issue: Conflicting turning movements and complex geometry increase the risk of collisions at intersections.

Safety Issue Description: Intersection turning movement operations and geometry observed in the study area raised the following concerns:

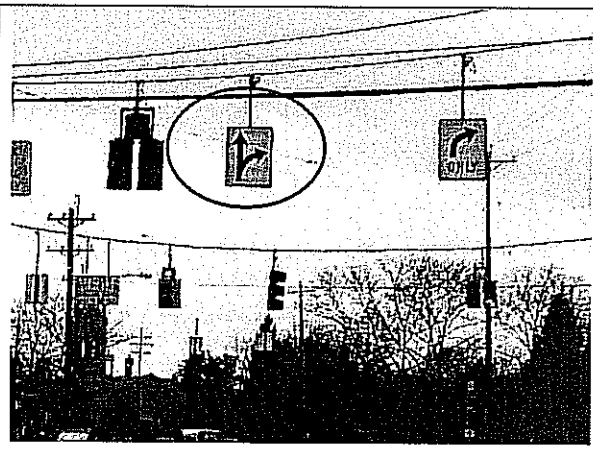
turn radii for dual turns: The turn radii for the dual turns on Spring Grove Avenue are sharp, often resulting in vehicles encroaching into adjacent lanes. The sharp turn radii increase the potential for side-swipe collisions.

small turn radius for dual right turns at intersection of Spring Grove Av and Winton Rd. Dual left turns track to the outside of the right turn pavement marking shown in this picture.

concurrent dual turns (right turns and left turns): Traffic signal phasing provides concurrent green intervals to dual right turning and (from the cross-street) dual left turning traffic. The concurrent dual turn movements, combined with the limited available turn radii, increase the opportunity for head-on and side-swipe collisions. Two locations currently provide this condition: the intersections of Spring Grove with Winton Rd *(right)* and Clifton Av.



dual left turns from southbound Winton Rd often encroach into opposing dual right turn lanes

Protected turns from shared- use lanes: Protected right turn phases are provided on Spring Grove Avenue at the intersections with Winton Road and Clifton Avenue, where two lanes serve the right-turn movement. The curb lane is a right turn only lane but the lane to the left (second lane from the curb) is a shared right turn and through lane. Through traffic in this lane will block right tuning traffic during the protected right-turn phase. This increases the risk for rear-end collisions and side-swipes as right-turning drivers veer suddenly out of the lane to avoid delays..	 *protected right turns from shared through right turn lane.*
Permitted left turns: The study area intersections allow permitted left-turn lanes across multi-lane opposing traffic. Aggressive drivers may attempt to use inadequate gaps in opposing traffic, causing left-turn head-on and secondary rear-end collisions.	
Southbound right turn at Spring Grove/Winton: The channelized right turn with traffic signal control is not a typical configuration. Usually, channelized right turns are not traffic signal controlled and drivers may not pay attention to traffic signal based on prior experience. This could result in an increase of rear-end, side-swipe, and angle collisions.	 *channelized right turn on southbound Winton Rd showing red signal indication*

Expected Crash Types: angle, rear-end, and sideswipe collisions

Expected Frequency: frequent

Expected Severity: low-moderate

Risk Rating: **D** (Moderate-High risk level)

Suggestions

Several geometric and operational upgrades that may address the above issues can be included as part of the future Spring Grove corridor improvements. The City may want to specifically consider the following improvements:

Review need for dual turns. Traffic volumes observed during the site visit in mid-December did not clearly demonstrate the need for all current dual turns. This was especially true for the dual right turn on the east leg of the intersection of Spring Grove Avenue and Winton Road. If dual turns are deemed unnecessary, it is suggested that single turn lanes be provided. This will simplify intersection movements and provide wider paths and a greater buffer between turning vehicles, which will decrease the potential for side-swipe collisions.

Review need for concurrent dual turns. Concurrent right and left dual turns set high-volume movements within little space in opposition to each other. The potential for multiple-vehicle conflicts is increased with this configuration. It is suggested that the operation of the intersections be reviewed to see if this configuration could be removed or modified though changes in geometry and/or signal phasing. Removal of the concurrent dual turns will simplify intersection movements and provide wider paths for turning vehicles, which will decrease the potential for side-swipe collisions

Review protected turns from shared-use lanes. Protected turns from shared-use lanes create conflicts within lanes, increasing the potential for rear-end collisions. It is suggested that operational alternatives that remove this condition be explored.

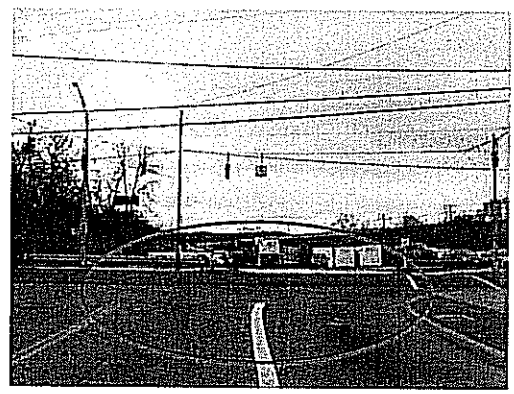
Investigate opportunities for increasing turn radii. Larger turn radii will decrease the potential for side-swipe collisions and may be able to provide a wider buffer between opposing movements.

Review operation of southbound right turn at Spring Grove Avenue/Winton Road. It is suggested that the right turn configuration be reviewed and possibly changed to better conform to drivers expectations while being operationally effective. Consider removing signalization and creating a receiving acceleration lane on westbound Spring Grove Avenue, or removing channelization and creating a stop condition for all movements on the north approach.

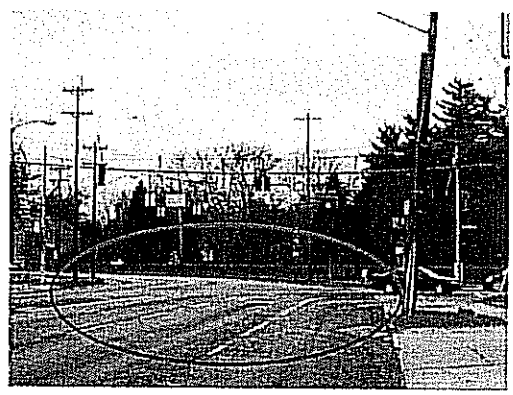
Spring Grove Avenue Corridor Improvement Project
Issue 3: Pavement Markings

Safety Issue: Pavement markings were faded and worn. STOP bar locations may be improved to reduce the potential for traffic conflicts.

Safety Issue Description: Pavement markings such as stop bars, pavement arrows, and crosswalks were faded and worn, providing less directional guidance to drivers and less guidance to drivers and pedestrians concerning the limits of the intersection. Unclear lane and intersection limits increase the risk of angle, rear-end, and pedestrian collisions. Proper delineation and lane guidance are particularly important at dual left-turn and dual right turn intersections where clearly marked limits can help to prevent a driver from encroaching into adjacent or opposing lanes. For example, on the north and east legs of the intersection of Spring Grove Avenue and Winton Road, where westbound dual right turns and southbound dual left turns are given a green concurrently, the stop bars, pavement arrows and lane dividing lines are difficult to discern.



stop bars and pavement arrows are barely visible on the east leg of the intersection of Clifton and Kenard



stop bars and pavement arrows are barely visible on the east leg of the intersection of Spring Grove Av and Winton Rd increasing the chance that a vehicle will encroach into the path of traffic on dual left turn lanes

Stop bars are also necessary to provide guidance to drivers as to the limits of the intersection. When stop bars are faded drivers are more likely to encroach into the crosswalk, forcing pedestrians to walk further into the intersection. Stop bars may be relocated further back to reduce the potential for traffic conflicts between stopped traffic and turning traffic. Stop bars at the following locations are candidates for re-location:

- Westbound Spring Grove Avenue at Winton Road, 2nd lane
- Northbound Clifton Avenue at Spring Grove Avenue, left-turn lane
- Southbound Winton Road at Spring Grove Avenue, left-turn lane

Expected Crash Types: all crash types, including pedestrian crashes

Expected Frequency: occasional

Expected Severity: low moderate

Risk Rating: **C** (moderate-low risk level)

Suggestions

Adjust stop bar locations. It is suggested that Stop bars at the following locations should be moved back to provide an adequate gap between stopped and turning traffic:

- Westbound Spring Grove Avenue at Winton Road, 2nd lane
- Northbound Clifton Avenue at Spring Grove Avenue, left-turn lane
- Southbound Winton Road at Spring Grove Avenue, left-turn lane

Refresh all pavement arrows and lane markings. Reapply pavement markings such as stop bars, pavement arrows, and crosswalks using a durable material such as thermoplastic, preformed tape, epoxy, or methyl methacrylate. Upgrading pavement markings can be expected to reduce all collisions within the study area by about 10 percent[1].

Provide raised pavement markers. Raised pavement markers provide better delineation between lanes and provide additional tactile division between lanes. These will help reduce the risk of side-swipe collisions.

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[1] SEMCOG Traffic Safety Manual (Second Edition) (Southeast Michigan Council of Governments, 1997)

Spring Grove Avenue Corridor Improvement Project
Issue 4: Driveways and Access Management

Safety Issue: Movements at driveways interfere with traffic on arterial roads and intersections, creating potentially hazardous conflicts.

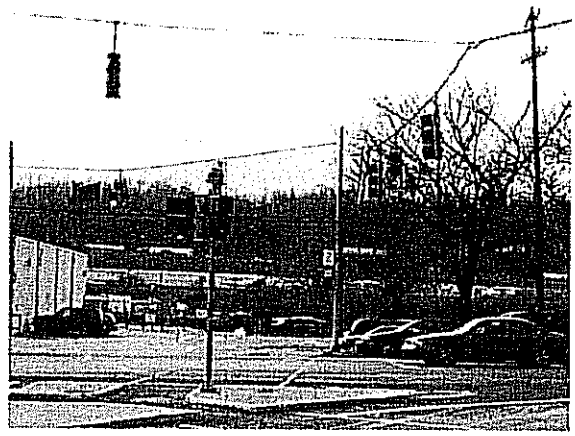
Safety Issue Description: This issue can be divided into two categories: access along arterial streets (Spring Grove Avenue) and access at (and close to) the intersections (Spring Grove Avenue/Winton Road and Clifton Avenue/Kenard Avenue).

Access along arterial streets. Spring Grove Avenue is an arterial roadway. In the roadway hierarchy, an arterial roadway is a continuous route that primarily serves through traffic, high traffic volumes, and long average trip lengths. Traffic movement is of primary importance, and access to adjacent land is of secondary importance.

Six driveway access points are on the north side of Spring Grove Avenue between Clifton Avenue and Winton Road (a distance of about 950 feet) serving the commercial and industrial developments on that side of the street (*right*). The accesses generate accelerating, decelerating, and turning (right-turn and left-turn) movements that interfere with through traffic on the arterial road. Station Avenue and Chester Avenue (which parallels Spring Grove Avenue about 240 feet to the north and connects to Station Avenue and Clifton Avenue) can be used as alternative routes to provide access to adjacent land from Spring Grove Avenue.

multiple accesses on the north side of Spring Grove Av increase conflict points

Access at (and closer to) the intersections. The driveway to the parking lot on the south leg to the intersection of Spring Grove Avenue and Winton Road has two three-lens display traffic signals for traffic control. When eastbound or westbound traffic on Spring Grove Avenue has a green light the traffic signal for the south leg is red. When southbound traffic on Winton road has a green light the traffic signal for the south leg turns to flashing red then to yellow and back to red. The green signal display is apparently never used. Traffic turning left out of this lot conflicts with the southbound left turning traffic coming from Winton Road. Vehicles waiting to make a left turn into the parking lot from westbound Spring Grove Avenue sometimes partially block the path of southbound left turning traffic coming from Winton Road. This driveway configuration may contribute to the angle and side swipe conflicts at the intersection.



Driveway to parking lot on south leg of intersection of Spring Grove Av and Winton Rd

Traffic using the driveway serving the Nations Rent development, located about 80 feet east of the intersection of Spring Grove Avenue and Winton Road, causes conflicts with traffic at the intersection. Vehicle operators turning right out of the driveway and wanting to continue westbound on Spring Grove Avenue will have to cross the rightmost lane, which is a right-turn only lane, to get into the through lane, creating a very short merge section close to the intersection. In addition, vehicle operators wanting to turn left out of the driveway will conflict with westbound traffic on Spring Grove Avenue. Traffic executing a left turn into the driveway from eastbound Spring Grove Avenue interferes with eastbound through traffic.

The driveway to the parking lot on the west leg to the intersection of Clifton Avenue and Kenard Avenue has no traffic signal display, while the other three legs of the intersection are signalized. Drivers exiting the parking lot will have to judge the best time to enter the intersection which may violate drivers expectations on the other legs.

Traffic using the western driveway at the Blockbuster Video, which is located about 50 feet to the east of the intersection of Clifton Avenue and Kenard Avenue, often conflicts with traffic at the intersection. Traffic turning right out and attempting to turn left at the intersection of Clifton Avenue and Kenard Avenue often blocks the right turn lane, creating another conflict point close to the intersection and increasing driver frustration. Traffic should be accommodated adequately at the driveway to the east.

Traffic exiting Blockbuster and turning left often blocks the right turn lane even with light traffic due to the proximity of the driveway to the intersection

Two confounding factors common to both access management issues were identified by the audit team:

- *truck traffic:* A high proportion of trucks was observed on Spring Grove Avenue. These trucks appeared to be related to construction/hauling activities. Trucks react more slowly to traffic decelerating and accelerating from access points.
- *traffic speeds:* Observed traffic speeds of over 45 miles per hour increase the risk and potential severity of collisions along Spring Grove Avenue, and reduce the margin of error when slow-moving driveway-related traffic interferes with the major traffic flow .

Expected Crash Types: crossing and turning collisions, rear-end and sideswipe collisions

Expected Frequency: occasional

Expected Severity: low moderate

Risk Rating: **C** (moderate-high risk level)

Suggestions

- Opportunities to close and consolidate some of the driveways may be considered to reduce conflict points with traffic on Spring Grove Avenue. Driveways can potentially be eliminated and access to developments adjacent to Spring Grove Avenue can be provided from Station Avenue and Clifton Avenue.
- Consider eliminating left turns into and out of driveways. The City and the design team may consider signs, devices, and designs that will prevent drivers from turning left from driveways. This measure will likely increase the number of left turns at adjacent intersections, which may result in a migration of collision risk to these points.
- Consider converting the south leg of the intersection of Spring Grove Avenue and Winton Road to a right in/right out. This measure would reduce conflicts at the intersection that may result in a reduction of side-swipe, and angle collisions.
- Signalize the west leg of the intersection of Clifton Avenue and Kenard Avenue. This will provide better control through the intersection and meet with drivers expectations, resulting in a reduction of all crash types. As an alternative, convert the entrance into a right in/right out. This improvement can be combined with the potential improvements at this intersection and at the bridge to the south.
- Consider movement restrictions at the Blockbuster Video and Nations Rent driveways so that vehicles using these driveways cause less interference with intersection operations.

Spring Grove Avenue Corridor Improvement Project
Issue 5: Road Cross Section

Safety Issue: The cross section of Spring Grove Avenue includes apparent inconsistencies.

Safety Issue Description: Two locations on Spring Grove Avenue between Clifton Avenue and West Mitchell Avenue were found to have cross-section inconsistencies that may increase the probability of a collision. These were at the following locations:

eastbound Spring Grove Avenue: The right lane east of the intersection is currently wide enough to accommodate two lanes, but is marked for only one lane. The resulting wide single lane was observed to cause confusion when drivers' perceptions of the number of travel lanes were not consistent. Sideswipe collisions may result when one driver attempts to bypass another who is unprepared to share the unmarked approach lane.

wide right lane on eastbound Spring Grove Av is sometimes mistaken for two lane by motorists

westbound Spring Grove Avenue: Due to the geometry of a bus bay, the right lane appears to suddenly narrow as drivers approach the intersection with Clifton Avenue. This creates a hazard which is compounded by the presence of a utility pole.

abrupt lane narrowing at westbound Spring Grove Av

Expected Crash Types: side-swipes, off-road crashes

Expected Frequency: infrequent

Expected Severity: low moderate

Risk Rating: **B** (low risk level)

Suggestion:

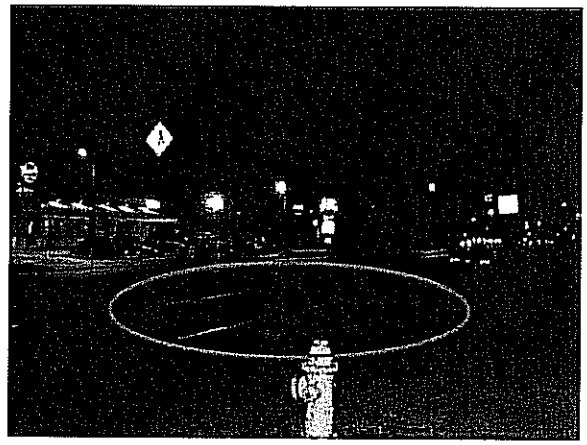
It is suggested that the cross-sectional consistency of Spring Grove Avenue between Clifton Avenue and West Mitchell Avenue be reviewed as part of future corridor improvements. Uniform lane widths will enable drivers to better anticipate the roadway and reduce confusion, thus resulting in fewer side-swipe collisions.

Spring Grove Avenue Corridor Improvement Project
Issue 6: Pedestrian Facilities

Safety Issue: Pedestrian facilities need upgrading and maintenance.

Safety Issue Description: Although pedestrian volumes were low during the site visit in mid-December, the following three issues were identified:

upgrade lighting: Streets should provide a consistent level of lighting. Nighttime pedestrian crossing areas should be supplemented with additional or brighter lighting, especially at unsignalized crossings where pedestrians are less likely to be seen. The lighting levels in the study area showed inconsistencies. Crosswalks were not well lit with the crossing on Spring Grove Avenue near Station Avenue being the most critical *(right).*

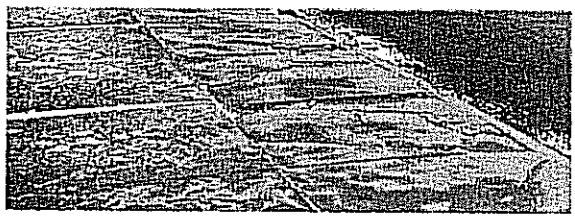


Night-time visibility of the crosswalk near Station Av is limited

crosswalk at Spring Grove Avenue near intersection with Station Avenue: Crosswalk pavement markings are inconspicuous, which may increase the risk to pedestrians crossing the street. Conspicuity is particularly important based on the speeds of vehicles on the road. The presence of a clearly visible pedestrian crossing facility is especially important at this location, where pedestrians walking to and from bus stops on both sides of the road can be expected.

crosswalk near Station Av is also inconspicuous during the day

sidewalk condition, especially trip hazards: The sidewalk along Spring Grove Avenue is poorly maintained, increasing risk of injury to pedestrians.



Expected Crash Types: pedestrian crashes and injuries

Expected Frequency: rare

Expected Severity: high

Risk Rating: C (moderate-low risk level)

Suggestions:

The following improvements will help enhance safety for pedestrians:

Provide consistent levels of lighting and upgrade lighting at crosswalks. Streets should be provided with a consistent level of lighting. Nighttime pedestrian crossing areas should be supplemented with additional or brighter lighting, especially at unsignalized crossings where pedestrians are less likely to be seen.

Review warrant for upgrading crosswalk makings near Station Avenue. Review MUTCD to see if zebra markings are warranted. Alternatively, identify the whether there is a continued need for this crosswalk.

Improve sidewalk conditions. City staff indicated that sidewalks are maintained by adjacent property owners. It is suggested that the City work with property owners on Spring Grove Avenue to implement a sidewalk repair program.

End.

Spring Grove & Mitchell Intersection

	ACCIDENTNO	LocationOne	LocationTwo	EventDescription	LocationID	DATEOH1	INJURIES
1	5040149	SPRING GROVE AV	W MITCHELL AV		34176111209	14-Jan-04	
2	5044541	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	16-Dec-04	Unknown
3	5050972	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	23-Mar-05	Incapacitating
4	5041832	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	20-May-04	
5	5042338	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	24-Jun-04	Possible
6	5042922	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	22-Aug-04	Incapacitating
7	5051613	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	19-May-05	No Injury
8	5043243	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	19-Sep-04	
9	5043727	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	20-Oct-04	No Injury
10	5044106	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	17-Nov-04	No Injury
11	5062479	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	07-Aug-06	
12	5063492	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	30-Oct-06	No Injury
13	5070934	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	19-Mar-07	No Injury
14	5071315	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	22-Apr-07	No Injury
15	5063368	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	22-Oct-06	
16	5072087	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	28-Jun-07	No Injury
17	5052940	SPRING GROVE AV	W MITCHELL AV	Angle	34176111209	23-Sep-05	Unknown
18	5050639	SPRING GROVE AV	W MITCHELL AV	Backing	34176111209	22-Feb-05	No Injury
19	5071556	SPRING GROVE AV	W MITCHELL AV	Backing	34176111209	14-May-07	
20	5053630	SPRING GROVE AV	W MITCHELL AV	Backing	34176111209	21-Nov-05	Unknown
21	5051398	SPRING GROVE AV	W MITCHELL AV	Fixed Object	34176111209	30-Apr-05	No Injury
22	5061240	SPRING GROVE AV	W MITCHELL AV	Fixed Object	34176111209	13-Apr-06	No Injury
23	5052833	SPRING GROVE AV	W MITCHELL AV	Fixed Object	34176111209	15-Sep-05	Fatal Injury
24	5053957	SPRING GROVE AV	W MITCHELL AV	Fixed Object	34176111209	16-Dec-05	No Injury
25	5070773	SPRING GROVE AV	W MITCHELL AV	Head-On	34176111209	05-Mar-07	No Injury
26	5051080	SPRING GROVE AV	W MITCHELL AV	Other Non-Collision	34176111209	02-Apr-05	Unknown
27	5051968	SPRING GROVE AV	W MITCHELL AV	Overturning	34176111209	23-Jun-05	No Injury
28	5050940	SPRING GROVE AV	W MITCHELL AV	Pedestrian	34176111209	21-Mar-05	No Injury
29	5050966	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	23-Mar-05	No Injury
30	5040049	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	05-Jan-04	
31	5044535	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	16-Dec-04	No Injury
32	5050952	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	22-Mar-05	No Injury
33	5044350	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	29-Nov-04	No Injury
34	5050970	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	23-Mar-05	Possible
35	5051216	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	14-Apr-05	No Injury
36	5051420	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	29-Apr-05	
37	5043105	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	05-Sep-04	No Injury
38	5041938	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	27-May-04	
39	5043952	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	05-Nov-04	No Injury
40	5064135	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	17-Dec-06	
41	5062097	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	29-Jun-06	No Injury
42	5063189	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	06-Oct-06	No Injury

Spring Grove & Mitchell Intersection

	ACCIDENT NO	LocationOne	Location Two	Event Description	LocationID	DATEOH1	INJURIES
43	5063259	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	13-Oct-06	No Injury
44	5060331	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	28-Jan-06	
45	5064204	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	22-Dec-06	No Injury
46	5071608	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	18-May-07	No Injury
47	5052333	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	27-Jul-05	Unknown
48	5052392	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	03-Aug-05	No Injury
49	5052568	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	20-Aug-05	
50	5061006	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	23-Mar-06	No Injury
51	5053043	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	03-Oct-05	No Injury
52	5060911	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	14-Mar-06	No Injury
53	5053758	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	01-Dec-05	No Injury
54	5060179	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	16-Jan-06	No Injury
55	5060316	SPRING GROVE AV	W MITCHELL AV	Rear-End	34176111209	27-Jan-06	No Injury
56	5041065	SPRING GROVE AV	W MITCHELL AV	Sideswipe Meeting	34176111209	29-Mar-04	
57	5044502	SPRING GROVE AV	W MITCHELL AV	Sideswipe Meeting	34176111209	13-Dec-04	No Injury
58	5043603	SPRING GROVE AV	W MITCHELL AV	Sideswipe Meeting	34176111209	13-Oct-04	No Injury
59	5044750	SPRING GROVE AV	W MITCHELL AV	Sideswipe Passing	34176111209	26-Dec-04	No Injury
60	5044461	SPRING GROVE AV	W MITCHELL AV	Sideswipe Passing	34176111209	10-Dec-04	No Injury
61	5044185	SPRING GROVE AV	W MITCHELL AV	Sideswipe Passing	34176111209	22-Nov-04	No Injury
62	5042733	SPRING GROVE AV	W MITCHELL AV	Sideswipe Passing	34176111209	03-Aug-04	
63	5051565	SPRING GROVE AV	W MITCHELL AV	Sideswipe Passing	34176111209	14-May-05	
64	5053432	SPRING GROVE AV	W MITCHELL AV	Sideswipe Passing	34176111209	03-Nov-05	No Injury
65	5051597	SPRING GROVE AV	W MITCHELL AV	Sideswipe Passing	34176111209	18-May-05	No Injury

Rate =	1.05 Accidents per million entering vehicles	ADT =	48532

Clifton & Kenard Intersection

	ACCIDENTNO	LocationOne	LocationTwo	Event Description	LocationID	DATEOH1	INJURIES
1	5064165	CLIFTON AV	KENARD AV	Angle	32667780250	20-Dec-06	No Injury
2	5062148	CLIFTON AV	KENARD AV	Angle	32667780250	04-Jul-06	Non-Incapacitating
3	5061524	CLIFTON AV	KENARD AV	Angle	32667780250	07-May-06	
4	5053580	CLIFTON AV	KENARD AV	Angle	32667780250	16-Nov-05	No Injury
5	5053409	CLIFTON AV	KENARD AV	Angle	32667780250	01-Nov-05	Unknown
6	5053217	CLIFTON AV	KENARD AV	Angle	32667780250	19-Oct-05	Unknown
7	5042080	CLIFTON AV	KENARD AV	Angle	32667780250	05-Jun-04	
8	5052154	CLIFTON AV	KENARD AV	Other Object	32667780250	09-Jul-05	
9	5070616	CLIFTON AV	KENARD AV	Rear-End	32667780250	21-Feb-07	No Injury
10	5052351	CLIFTON AV	KENARD AV	Rear-End	32667780250	28-Jul-05	No Injury
11	5044175	CLIFTON AV	KENARD AV	Rear-End	32667780250	21-Nov-04	Unknown
12	5041414	CLIFTON AV	KENARD AV	Rear-End	32667780250	21-Apr-04	
13	5054013	CLIFTON AV	KENARD AV	Sideswipe Meeting	32667780250	23-Dec-05	No Injury
14	5070876	CLIFTON AV	KENARD AV	Sideswipe Passing	32667780250	13-Mar-07	No Injury
15	5061270	CLIFTON AV	KENARD AV	Sideswipe Passing	32667780250	15-Apr-06	No Injury

Rate =	**0.56 Accidents per million entering vehicles**	ADT =	21012

Spring Grove & Clifton Intersection

	ACCIDENTNO	LocationOne	LocationTwo	Event Description	LocationID	DATEOH1	INJURIES
1	5050024	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	03-Jan-05	No Injury
2	5043883	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	30-Oct-04	No Injury
3	5043018	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	29-Aug-04	Possible
4	5041705	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	12-May-04	
5	5041181	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	07-Apr-04	
6	5041894	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	25-May-04	
7	5053344	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	27-Oct-05	Non-Incapacitating
8	5061847	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	02-Jun-06	No Injury
9	5071428	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	03-May-07	
10	5070797	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	07-Mar-07	No Injury
11	5062819	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	09-Sep-06	No Injury
12	5062236	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	12-Jul-06	No Injury
13	5062030	CLIFTON AV	SPRING GROVE AV	Angle	32667260566	22-Jun-06	No Injury
14	5071504	CLIFTON AV	SPRING GROVE AV	Fixed Object	32667260566	10-May-07	No Injury
15	5062850	CLIFTON AV	SPRING GROVE AV	Fixed Object	32667260566	12-Sep-06	Unknown
16	5042715	CLIFTON AV	SPRING GROVE AV	Pedestrian	32667260566	31-Jul-04	No Injury
17	5043966	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	06-Nov-04	No Injury
18	5043099	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	05-Sep-04	
19	5053323	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	25-Oct-05	No Injury
20	5071604	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	17-May-07	
21	5070366	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	03-Feb-07	Unknown
22	5064218	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	23-Dec-06	
23	5062158	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	05-Jul-06	No Injury
24	5053431	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	01-Nov-05	No Injury
25	5062138	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	03-Jul-06	
26	5060945	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	17-Mar-06	No Injury
27	5061519	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	06-May-06	
28	5061533	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	08-May-06	No Injury
29	5060938	CLIFTON AV	SPRING GROVE AV	Rear-End	32667260566	17-Mar-06	No Injury
30	5040199	CLIFTON AV	SPRING GROVE AV	Sideswipe Meeting	32667260566	17-Jan-04	No Injury
31	5060909	CLIFTON AV	SPRING GROVE AV	Sideswipe Meeting	32667260566	14-Mar-06	No Injury
32	5061732	CLIFTON AV	SPRING GROVE AV	Sideswipe Meeting	32667260566	23-May-06	No Injury
33	5042608	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	23-Jul-04	
34	5040050	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	05-Jan-04	
35	5052266	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	20-Jul-05	No Injury
36	5050802	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	07-Mar-05	Unknown
37	5044290	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	30-Nov-04	No Injury
38	5044200	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	23-Nov-04	Unknown
39	5043710	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	19-Oct-04	Unknown
40	5043357	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	27-Sep-04	No Injury
41	5043102	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	05-Sep-04	
42	5040848	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	10-Mar-04	
43	5041005	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	24-Mar-04	

Spring Grove & Clifton Intersection

	ACCIDENTNO	LocationOne	LocationTwo	Event Description	LocationID	DATEOH1	INJURIES
44	5041016	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	25-Mar-04	
45	5042827	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	13-Aug-04	
46	5041366	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	19-Apr-04	
47	5041766	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	15-May-04	
48	5042023	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	01-Jun-04	
49	5042326	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	24-Jun-04	
50	5042535	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	14-Jul-04	
51	5041303	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	14-Apr-04	
52	5071847	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	08-Jun-07	No Injury
53	5063774	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	17-Nov-06	No Injury
54	5063568	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	02-Nov-06	Unknown
55	5053121	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	10-Oct-05	No Injury
56	5060998	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	22-Mar-06	No Injury
57	5053352	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	28-Oct-05	No Injury
58	5053790	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	05-Dec-05	
59	5054059	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	29-Dec-05	No Injury
60	5061340	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	21-Apr-06	No Injury
61	5061753	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	25-May-06	No Injury
62	5071977	CLIFTON AV	SPRING GROVE AV	Sideswipe Passing	32667260566	20-Jun-07	No Injury

Rate =	1.44 Accidents per million entering vehicles	ADT =	33707

Spring Grove & Winton Intersection

	ACCIDENTNO	LocationType	LocationOne	LocationTwo	Event Description	LocationID	DATEOH1	INJURIES
1	5051470	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	06-May-05	No Injury
2	5051749	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	31-May-05	No Injury
3	5051760	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	01-Jun-05	No Injury
4	5050465	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	04-Feb-05	No Injury
5	5050219	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	20-Jan-05	No Injury
6	5053266	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	21-Oct-05	No Injury
7	5052884	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	19-Sep-05	No Injury
8	5041228	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	09-Apr-04	
9	5040518	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	09-Feb-04	
10	5044353	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	02-Dec-04	Unknown
11	5043920	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	03-Nov-04	No Injury
12	5043536	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	10-Oct-04	No Injury
13	5042976	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	25-Aug-04	
14	5063643	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	08-Nov-06	No Injury
15	5070144	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	14-Jan-07	No Injury
16	5062308	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	19-Jul-06	No Injury
17	5071533	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	11-May-07	No Injury
18	5070328	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	30-Jan-07	Unknown
19	5060256	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	21-Jan-06	
20	5061260	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	14-Apr-06	No Injury
21	5061215	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	10-Apr-06	Unknown
22	5061063	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	29-Mar-06	Unknown
23	5060736	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	28-Feb-06	No Injury
24	5062263	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	14-Jul-06	No Injury
25	5060427	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	04-Feb-06	
26	5053939	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	15-Dec-05	
27	5062152	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	05-Jul-06	No Injury
28	5062010	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	19-Jun-06	No Injury
29	5061300	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	18-Apr-06	No Injury
30	5061840	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	02-Jun-06	Unknown
31	5061809	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	29-May-06	No Injury
32	5061394	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	25-Apr-06	No Injury
33	5061908	Intersection	SPRING GROVE AV	WINTON RD	Angle	32657080700	08-Jun-06	No Injury
34	5052345	Intersection	SPRING GROVE AV	WINTON RD	Fixed Object	32657080700	28-Jul-05	No Injury
35	5040329	Intersection	SPRING GROVE AV	WINTON RD	Fixed Object	32657080700	28-Jan-04	
36	5041914	Intersection	SPRING GROVE AV	WINTON RD	Fixed Object	32657080700	26-May-04	
37	5063855	Intersection	SPRING GROVE AV	WINTON RD	Other Object	32657080700	26-Nov-06	
38	5050158	Intersection	SPRING GROVE AV	WINTON RD	Pedal Cycle	32657080700	15-Jan-05	No Injury
39	5062067	Intersection	SPRING GROVE AV	WINTON RD	Pedal Cycle	32657080700	26-Jun-06	
40	5050099	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	10-Jan-05	No Injury
41	5051258	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	18-Apr-05	No Injury
42	5050837	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	11-Mar-05	No Injury
43	5050523	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	10-Feb-05	No Injury
44	5050495	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	08-Feb-05	No Injury
45	5040019	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	03-Jan-04	Possible
46	5052791	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	10-Sep-05	
47	5053774	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	03-Dec-05	
48	5053750	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	02-Dec-05	No Injury
49	5053292	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	23-Oct-05	
50	5051629	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	20-May-05	No Injury
51	5050088	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	09-Jan-05	No Injury
52	5052070	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	30-Jun-05	No Injury
53	5042384	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	30-Jun-04	No Injury
54	5042305	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	24-Jun-04	
55	5042551	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	16-Jul-04	
56	5042593	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	21-Jul-04	
57	5040141	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	13-Jan-04	No Injury
58	5044611	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	22-Dec-04	No Injury
59	5044387	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	05-Dec-04	Unknown
60	5044273	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	27-Nov-04	No Injury
61	5043268	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	21-Sep-04	No Injury

	Spring Grove & Winton Intersection							
	ACCIDENTNO	LocationType	LocationOne	LocationTwo	Event Description	LocationID	DATEOH1	INJURIES
62	5043262	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	20-Sep-04	No Injury
63	5062537	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	11-Aug-06	Possible
64	5062527	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	11-Aug-06	
65	5062377	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	27-Jul-06	Unknown
66	5062371	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	27-Jul-06	No Injury
67	5062632	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	31-Aug-06	No Injury
68	5071265	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	19-Apr-07	No Injury
69	5071944	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	17-Jun-07	
70	5071663	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	23-May-07	No Injury
71	5071351	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	25-Apr-07	No Injury
72	5071318	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	23-Apr-07	No Injury
73	5071003	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	27-Mar-07	No Injury
74	5060249	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	20-Jan-06	No Injury
75	5060246	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	20-Jan-06	No Injury
76	5060193	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	17-Jan-06	No Injury
77	5062096	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	28-Jun-06	No Injury
78	5061895	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	07-Jun-06	No Injury
79	5061668	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	17-May-06	No Injury
80	5062249	Intersection	SPRING GROVE AV	WINTON RD	Rear-End	32657080700	13-Jul-06	No Injury
81	5052083	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Meeting	32657080700	01-Jul-05	No Injury
82	5042170	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Meeting	32657080700	12-Jun-04	
83	5040074	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Meeting	32657080700	07-Jan-04	
84	5063519	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Meeting	32657080700	31-Oct-06	No Injury
85	5050565	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	14-Feb-05	No Injury
86	5051485	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	07-May-05	
87	5051464	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	06-May-05	No Injury
88	5051367	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	27-Apr-05	No Injury
89	5051127	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	06-Apr-05	No Injury
90	5053497	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	10-Nov-05	
91	5053139	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	12-Oct-05	No Injury
92	5052605	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	23-Aug-05	
93	5052377	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	01-Aug-05	
94	5052159	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	09-Jul-05	
95	5053031	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	02-Oct-05	
96	5041650	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	09-May-04	
97	5050112	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	12-Jan-05	No Injury
98	5042388	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	30-Jun-04	No Injury
99	5041954	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	28-May-04	
100	5041872	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	13-May-04	
101	5040835	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	08-Mar-04	
102	5043534	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	10-Oct-04	No Injury
103	5044085	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	16-Nov-04	No Injury
104	5042539	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	15-Jul-04	
105	5053986	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	19-Dec-05	No Injury
106	5043506	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	08-Oct-04	Unknown
107	5043042	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	28-Aug-04	
108	5042736	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	03-Aug-04	No Injury
109	5043884	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	02-Nov-04	Unknown
110	5062567	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	15-Aug-06	No Injury
111	5053907	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	12-Dec-05	
112	5063694	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	13-Nov-06	
113	5063132	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	03-Oct-06	
114	5064170	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	20-Dec-06	No Injury
115	5062611	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	18-Aug-06	No Injury
116	5062296	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	18-Jul-06	No Injury
117	5072046	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	26-Jun-07	No Injury
118	5071635	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	12-May-07	
119	5063977	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	06-Dec-06	No Injury
120	5062157	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	05-Jul-06	No Injury
121	5071005	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	27-Mar-07	No Injury
122	5070930	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	19-Mar-07	

	Spring Grove & Winton Intersection							
	ACCIDENTNO	LocationType	LocationOne	LocationTwo	Event Description	LocationID	DATEOH1	INJURIES
123	5070248	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	23-Jan-06	No Injury
124	5070243	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	22-Jan-07	No Injury
125	5071327	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	24-Apr-07	No Injury
126	5060999	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	22-Mar-06	No Injury
127	5060712	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	26-Feb-06	
128	5061307	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	18-Apr-06	No Injury
129	5054050	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	28-Dec-05	No Injury
130	5054009	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	22-Dec-05	No Injury
131	5072103	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	29-Jun-07	No Injury
132	5060634	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	19-Feb-06	No Injury
133	5061873	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	05-Jun-06	No Injury
134	5062013	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	20-Jun-06	No Injury
135	5061262	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	14-Apr-06	No Injury
136	5061773	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	27-May-06	
137	5061459	Intersection	SPRING GROVE AV	WINTON RD	Sideswipe Passing	32657080700	01-May-06	

Rate =	2.62 Accidents per million entering vehicles	ADT =	40914

Spring Grove Corridor

	ACCIDENTNO	Street	Address	Event Description	DATEOFH1	INJURIES	FATALITIES	LocationType	LocationID	RoadCondition	Weather
1	5061941	SPRING GROVE AV	4521	Fixed Object	11-Jun-06		0	Address	326332593473265708070	Wet	Rain
2	5070607	SPRING GROVE AV	4521	Fixed Object	20-Feb-07	No Injury	0	Address	326332593473265708070	Wet	Rain
3	5052982	SPRING GROVE AV	4521	Rear-End	27-Sep-05	No Injury	0	Address	326332593473265708070	Dry	Clear
4	5062730	SPRING GROVE AV	4521	Rear-End	30-Aug-06	No Injury	0	Address	326332593473265708070	Dry	Cloudy
5	5071151	SPRING GROVE AV	4527	Sideswipe Passing	09-Apr-07		0	Address	326332593473265708070	Dry	Clear
6	5052983	SPRING GROVE AV	4538	Rear-End	27-Sep-05	No Injury	0	Address	326332593473265708070	Dry	Clear
7	5071309	SPRING GROVE AV	4548	Rear-End	22-Apr-07	No Injury	0	Address	326332593473265708070	Dry	Clear
8	5051070	SPRING GROVE AV	4560	Rear-End	31-Mar-05	Unknown	0	Address	326332593473265708070	Unknown	Unknown
9	5052963	SPRING GROVE AV	4560	Rear-End	26-Sep-05		0	Address	326332593473265708070	Wet	Rain
10	5062798	SPRING GROVE AV	4597	Fixed Object	08-Sep-06	No Injury	0	Address	326332593473265708070	Dry	Clear
11	5050614	SPRING GROVE AV	4598	Rear-End	18-Feb-05	No Injury	0	Address	326332593473265708070	Dry	Clear
12	5052271	SPRING GROVE AV	4600	Angle	20-Jul-05	No Injury	0	Address	3265708070032661720632	Dry	Clear
13	5062576	SPRING GROVE AV	4600	Rear-End	16-Aug-06	No Injury	0	Address	3265708070032661720632	Dry	Clear
14	5070241	SPRING GROVE AV	4600	Rear-End	22-Jan-07		0	Address	3265708070032661720632	Wet	Cloudy
15	5053262	SPRING GROVE AV	4600	Sideswipe Passing	21-Oct-05	No Injury	0	Address	3265708070032661720632	Wet	Rain
16	5061713	SPRING GROVE AV	4600	Sideswipe Passing	20-May-06	Unknown	0	Address	3265708070032661720632	Dry	
17	5044701	SPRING GROVE AV	4600	Sideswipe Passing	29-Dec-04	No Injury	0	Address	3265708070032661720632	Wet	Cloudy
18	5061718	SPRING GROVE AV	4601	Sideswipe Passing	21-May-06	No Injury	0	Address	3265708070032661720632	Dry	Cloudy
19	5043711	SPRING GROVE AV	4620	Fixed Object	19-Oct-04	No Injury	0	Address	3265708070032661720632	Wet	Clear
20	5050274	SPRING GROVE AV	4620	Parked Motor Veh	23-Jan-05	No Injury	0	Address	3265708070032661720632	Wet	Cloudy
21	5041286	SPRING GROVE AV	4620	Parked Motor Veh	13-Apr-04		0	Address	3265708070032661720632		
22	5040520	SPRING GROVE AV	4620	Rear-End	09-Feb-04		0	Address	3265708070032661720632		
23	5071346	SPRING GROVE AV	4621	Rear-End	26-Apr-07	No Injury	0	Address	3265708070032661720632	Wet	Rain
24	5072060	SPRING GROVE AV	4631	Sideswipe Passing	27-Jun-07	No Injury	0	Address	3265708070032661720632	Dry	Cloudy
25	5070696	SPRING GROVE AV	4635	Sideswipe Passing	27-Feb-07		0	Address	326617206323266726056	Dry	Clear
26	5070536	SPRING GROVE AV	4637	Angle	16-Feb-07	No Injury	0	Address	326617206323266726056	Wet	Other
27	5053594	SPRING GROVE AV	4637	Angle	17-Nov-05	No Injury	0	Address	326617206323266726056	Dry	Clear
28	5042685	SPRING GROVE AV	4638	Rear-End	24-Jul-04	No Injury	0	Address	326617206323266726056		
29	5050027	SPRING GROVE AV	4645		03-Jan-05	Unknown	0	Address	326617206323266726056	Wet	Rain
30	5042950	SPRING GROVE AV	4645	Rear-End	24-Aug-04		0	Address	326617206323266726056		
31	5060752	SPRING GROVE AV	4645	Sideswipe Passing	02-Mar-06	No Injury		Address	326617206323266726056	Dry	Clear
32	5040010	SPRING GROVE AV	4650	Rear-End	02-Jan-04		0	Address	326617206323266726056		
33	5060307	SPRING GROVE AV	4651	Sideswipe Passing	26-Jan-06	No Injury	0	Address	326617206323266726056	Dry	Clear
34	5070782	SPRING GROVE AV	4660	Parked Motor Veh	06-Mar-07	No Injury	0	Address	326617206323266726056	Dry	Clear
35	5071436	SPRING GROVE AV	4660	Rear-End	04-May-07	No Injury	0	Address	326617206323266726056	Dry	Cloudy
36	5062496	SPRING GROVE AV	4660	Sideswipe Meeting	09-Aug-06	No Injury	0	Address	326617206323266726056	Wet	Cloudy
37	5052156	SPRING GROVE AV	4660	Sideswipe Passing	09-Jul-05		0	Address	326617206323266726056	Dry	Clear
38	5041592	SPRING GROVE AV	4665	Angle	04-May-04		0	Address	326617206323266726056		
39	5052098	SPRING GROVE AV	4665	Sideswipe Passing	03-Jul-05	No Injury	0	Address	326617206323266726056	Dry	Clear
40	5043032	SPRING GROVE AV	4671	Sideswipe Passing	30-Aug-04		0	Address	326617206323266726056		
41	5043295	SPRING GROVE AV	4680	Rear-End	22-Sep-04	No Injury	0	Address	326617206323266726056	Dry	Clear
42	5040373	SPRING GROVE AV	4690	Angle	30-Jan-04		0	Address	326617206323266726056		
43	5040334	SPRING GROVE AV	4700	Angle	28-Jan-04		0	Address	3266726056634176111209		
44	5064033	SPRING GROVE AV	4700	Parked Motor Veh	07-Dec-06	No Injury	0	Address	3266726056634176111209	Ice	(Freezing Rain,

Spring Grove Corridor

	ACCIDENTNO	Street	Address	Event Description	DATEOFH1	INJURIES	FATALITIES	LocationType	LocationID	RoadCondition	Weather
45	5044627	SPRING GROVE AV	4700	Rear-End	24-Dec-04	No Injury	0	Address	326672605663417611209	Snow	Snow
46	5051715	SPRING GROVE AV	4700	Rear-End	27-May-05	No Injury	0	Address	326672605663417611209	Dry	Clear
47	5061930	SPRING GROVE AV	4700	Rear-End	10-Jun-06		0	Address	326672605663417611209	Wet	Rain
48	5071658	SPRING GROVE AV	4700	Rear-End	22-May-07	No Injury	0	Address	326672605663417611209	Dry	Clear
49	5062554	SPRING GROVE AV	4700	Rear-End	14-Aug-06		0	Address	326672605663417611209	Dry	Cloudy
50	5052826	SPRING GROVE AV	4700	Rear-End	14-Sep-05	No Injury	0	Address	326672605663417611209	Dry	Cloudy
51	5062862	SPRING GROVE AV	4700	Rear-End	13-Sep-06	No Injury	0	Address	326672605663417611209	Dry	Cloudy
52	5051993	SPRING GROVE AV	4700	Rear-End	10-Jun-05	No Injury	0	Address	326672605663417611209	Wet	Cloudy
53	5050337	SPRING GROVE AV	4700	Sideswipe Passing	27-Jan-05	No Injury	0	Address	326672605663417611209	Dry	Clear
54	5043293	SPRING GROVE AV	4700	Sideswipe Passing	22-Sep-04	No Injury	0	Address	326672605663417611209	Dry	Clear
55	5070091	SPRING GROVE AV	4720	Fixed Object	11-Jan-07		0	Address	326672605663417611209	Dry	Clear
56	5061258	SPRING GROVE AV	4747	Angle	14-Apr-06	Possible		Address	326672605663417611209	Dry	Cloudy
57	5050580	SPRING GROVE AV	4747	Fixed Object	15-Feb-05		0	Address	326672605663417611209	Dry	Clear
58	5052548	SPRING GROVE AV	4747	Pedal Cycle	19-Aug-05	Possible	0	Address	326672605663417611209	Dry	Clear
59	5072039	SPRING GROVE AV	4747	Rear-End	26-Jun-07	No Injury	0	Address	326672605663417611209	Dry	Clear
60	5052476	SPRING GROVE AV	4750	Sideswipe Passing	11-Aug-05	Unknown	0	Address	326672605663417611209	Dry	Clear
61	5051163	SPRING GROVE AV	4759	Angle	09-Apr-05	No Injury	0	Address	326672605663417611209	Dry	Clear
62	5040376	SPRING GROVE AV	4771	Fixed Object	31-Jan-04		0	Address	326672605663417611209		
63	5071559	SPRING GROVE AV	4774	Angle	15-May-07	No Injury	0	Address	326672605663417611209	Dry	Clear
64	5041670	SPRING GROVE AV	4775	Sideswipe Passing	10-May-04		0	Address	326672605663417611209		
65	5061567	SPRING GROVE AV	4777	Rear-End	11-May-06	No Injury	0	Address	326672605663417611209	Wet	Rain
66	5043951	SPRING GROVE AV	4779	Rear-End	05-Nov-04	Possible	0	Address	326672605663417611209	Dry	Clear
67	5040562	SPRING GROVE AV	4800	Backing	13-Feb-04		0	Address	341761112093418023159 4		
68	5052623	SPRING GROVE AV	4800	Rear-End	24-Aug-05	No Injury	0	Address	341761112093418023159 4	Dry	Clear
69	5064003	SPRING GROVE AV	4800	Rear-End	07-Dec-06	No Injury	0	Address	341761112093418023159 4	Snow	Snow
70	3064026	SPRING GROVE AV	4800	Sideswipe Passing	07-Dec-06		0	Address	341761112093418023159 4	Snow	Snow
71	5061132	SPRING GROVE AV	4810	Angle	04-Apr-06	No Injury		Address	341761112093418023159 4	Dry	Clear
72	5062311	SPRING GROVE AV	4810	Angle	19-Jul-06	No Injury	0	Address	341761112093418023159 4	Dry	Clear
73	5070697	SPRING GROVE AV	4810	Angle	27-Feb-07	No Injury	0	Address	341761112093418023159 4	Dry	Clear
74	5070024	SPRING GROVE AV	4810	Sideswipe Passing	04-Jan-07	No Injury	0	Address	341761112093418023159 4	Dry	Cloudy

Rate =	**4.65 Accidents per million vehicle miles**

Length (mi)= 0.45

ADT = 27697

SUBMISSION CHECKLIST
FOR
STATE OF OHIO CAPITAL IMPROVEMENT GRANT APPLICATIONS

This checklist must be submitted with the other items necessary for project eligibility and review. Upon district receipt of the full package, this checklist will be date stamped and a copy will be forwarded to the applying jurisdiction. Once the checklist has been stamped, the district will accept no additional information regarding the project.

Spring Grove/Clifton Avenue Improvements

The following items **MUST** be submitted (by the deadline for such submission) in order for the District Two-Integrating Committee and Support Staff to consider your application complete and eligible for funding:

__x__ **OPWC Application for Financial Assistance (State of OhioForm–Signed by C.E.O.)**	__x__ **Additional Support Information Form (District Two Form)**	__x__ **Detailed Cost Estimate (Signed by P.E.)**
__X__ **Useful Life Certificate (Signed by P.E.)**	__x__ **Status of Funds Certification (Jurisdiction Letterhead–Signed by C.F.O.)**	__x__ **Project Vicinity Map**
__x__ **Project Pictures (Minimum of 4 - Mounted)**		

The following items **MUST** be submitted with the application in order for the District Two Support Staff to consider the maximum points available for your application (Specify type of submission):

- **Infrastructure Condition Data**

Customer Service Request Records (CSR)
Street Condition Database Information
BR86 Report
Photos showing failing pavement

Infrastructure Safety Data

Crash rate sheets and database information
FHWA Road Safety Audit

- **Infrastructure Health Data**

Jurisdiction User Fee/Assessment Data

- **Economic Growth Data**
- **Alleviate Traffic Hazards/LOS Data**
- **Ban/Moratorium Data**
- **Users Certification Data**

Certified Traffic Count

The following items must be submitted by November 5, 2007:

___ **Capital Improvement Report (State of Ohio Form)**	___ **Enabling Legislation (On Jurisdiction Letterhead and Signed by Clerk)**